IN THE HON'BLE SUPREME COURT OF INDIA
CIVIL APPELLATE JURISDICTION
CIVIL APPEAL NO. ________ OF 2022
(Under Section 22 of the NGT Act, 2010)

[Against the impugned judgment and final order dated 22.01.2020 passed by the Ld. National Green Tribunal, Principal Bench, Delhi in O.A. No. 33/2015 [WZ] and the impugned judgment and final order dated 17.01.2022 passed by the Ld. National Green Tribunal, Special Bench in Misc. Application No. 21/2021(WZ) in O.A. No. 33/2015(WZ)]

IN THE MATTER OF:

THE GOA FOUNDATION …APPELLANT

VERSUS

GOA STATE ENVIRONMENT IMPACT
ASSESSMENT AUTHORITY AND ORS. …RESPONDENTS

WITH

I.A. NO. OF 2022: APPLICATION FOR PERMISSION TO PLACE ADDITIONAL DOCUMENTS ON RECORD

I.A. NO. OF 2022: APPLICATION FOR EXEMPTION FROM FILING CERTIFIED COPY OF IMPUGNED ORDERS

I.A. NO. OF 2022: APPLICATION FOR GRANT OF INTERIM RELIEF

PAPER BOOK
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ADVOCATE FOR THE APPELLANT: MS. SRISHTI AGNIHOTRI

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IN THE HON'BLE SUPREME COURT OF INDIA
CIVIL APPELLATE JURISDICTION
CIVIL APPEAL NO. ________ OF 2022

IN THE MATTER OF:

GOA FOUNDATION, THROUGH
ITS SECRETARY …APPELLANT

VERSUS

GOA STATE ENVIRONMENT IMPACT
ASSESSMENT AUTHORITY AND ORS. …RESPONDENTS

OFFICE REPORT ON LIMITATION

1. The Appeal is within time.
2. The Appeal is barred by time and there is delay of _______ days in filing the same against order dated 22.01.2020 and order dated 17.01.2022 and petition for condonation of ________ days delay has been filed.
3. There is delay of _____ days in refiling the petition and petition for condonation of _____ days delay in re-filing has been filed.

BRANCH OFFICER

Place: New Delhi

Dated: 30.05.2022

PROFORMA FOR FIRST LISTING

SECTION:

The case pertains to (Please tick/check the correct box):

☐ Central Act (Title): **The National Green Tribunal Act, 2010**
☐ Section: **22 of the National Green Tribunal Act, 2010**
☐ Central Rule: (Title) NA
☐ Rule No(s): NA
☐ State Act: (Title) NA
☐ Section: NA
☐ State Rule: (Title) NA
☐ Rule No(s): NA
☐ Impugned Interim Order: (Date) NA
☐ Impugned Final Order/Decree: **22.01.2020 and 17.01.2022**
☐ High Court: (Name) NA
☐ Names of Judges:
Order dated 22.01.2020 in OA No. 33/2015(WZ) by NGT, Principal Bench, New Delhi:
HMJ Adarsh Kumar Goel, Chairperson
HMJ S.P. Wangdi, Judicial Member
Hon'ble Mr. Siddhanta Das, Expert Member
Order dated 17.01.2022 in Misc. Application No. 21/2021(WZ) in OA No. 33/2015(WZ) by NGT, Special Bench:
HMJ Adarsh Kumar Goel, Chairperson
HMJ Sudhir Agarwal, Judicial Member
HMJ Brijesh Sethi, Judicial Member
Hon'ble Prof A. Senthil Vel, Expert Member
Hon'ble Dr. Afroz Ahmad, Expert Member

☐ Tribunal/Authority: **Ld. National Green Tribunal, Principal Bench, New Delhi and Ld. National Green Tribunal, Special Bench**

1. Nature of matter: CIVIL
2. (a) Petitioner/appellant No.1 : **The Goa Foundation**
   (b) E-mail ID : NA
   (c) Mobile phone number NA
3. (a) Respondent No. 1: **Goa State Environment Impact Assessment Authority & Ors.**
   (b) E-mail ID: NA
   (c) Mobile phone number NA
4. (a) Main category classification : **15**

(b) Sub classification: **1503**

5. Not to be listed before: N/A
6. (a) Similar disposed of matter with citation, if any, and case details: **N/A**
   (b) Similar pending matter with case details: **No similar matter is pending.**
7. **Criminal Matters:**
   (a) Whether accused/convict has surrendered: No
   (b) FIR No. N/A Date: N/A
   (c) Police Station: N/A
   (d) Sentence Awarded: N/A
   (e) Period of sentence undergone including period of Detention / Custody Undergone: N/A
8. **Land Acquisition Matters: N/A**
   (a) Date of Section 4 notification: N/A
   (b) Date of Section 6 notification: N/A____________
   (c) Date of Section 17 notification: N/A___________
9. **Tax Matters:** State the tax effect: NA____________
10. **Special Category** (first petitioner/appellant only):
    ☐ Senior citizen >65 years ☐ SC/ST ☐ Woman/child
    ☐ Disabled ☐ Legal Aid case ☐ in custody
11. Vehicle Number (in case of Motor Accident Claim matters): NA

Date: 30.05.2022

Srishti Agnihotri

(SRISHTI AGNIHOTRI)
AOR FOR THE APPELLANT
Name: Srishti Agnihotri
Registration No. 2755
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SYNOPSIS

The present Appeal has been filed against the Order dated 22.01.2020 passed by the Ld. National Green Tribunal, Principal Bench, New Delhi in O.A. No. 33 of 2015 (WZ), primarily on grounds of natural justice being denied to the Appellant by the Ld. Tribunal, i.e., without hearing the original applicant. The present appeal also challenges the order dated 17.01.2022 passed by the Ld. National Green Tribunal, Special Bench disposing of the Misc. Application No. 21/2021(WZ) filed in O.A. No. 33/2015(WZ) for recall of the order dated 22.01.2020.

The Appellant had filed Appeal No. 31/2014 before the NGT, Western Zone challenging the CRZ clearance of the project in question, a Rs.77 crore bridge across the Tiracol river. The Ld. NGT stayed the project in December 2014, but subsequently dismissed the appeal on the ground that it was barred by limitation vide order dated 27.03.2015. However, the Ld. Tribunal granted the Appellant liberty to file appropriate proceedings as the material on record *prima facie* indicated violation of the CRZ Notification, 2011.

In pursuance of said order, the Appellant organisation filed O.A. No. 33/2015s(WZ) before the Ld. NGT, Western Zone Bench. It was the Appellant’s case before the Hon’ble Tribunal that the construction of the bridge from the Querim beach on one side to the Tiracol village across the Tiracol river on the other, at its present alignment, is in violation of the CRZ Notification, 2011 and also destructive of the natural environment. The prayers in the O.A. No. 33/2015 (WZ) have been extracted below:

a. *Direct the removal of the construction works of Tiracol bridge partly being erected on Querim beach.*
b. *Direct the Respondent Nos. 1-4 to restore the beach of Querim to its original condition.*
c. *Award appropriate costs for damage to the Querim beach and for its restoration.*
d. *Pass such and further orders as this Hon'ble Tribunal may deem fit to grant. s*

The entire beach of Querim is designated as CRZ I in the approved Coastal Zone Management Plan of Goa dated 27.9.1996 on grounds of *"outstanding natural beauty and presence of sand dunes."* This means that the entire beach up to 500 meters from the High Tide Line becomes a No-Development Zone (NDZ). The Appellant contended that the bridge, its pillars and spans, would fatally damage the Querim beach and the Tiracol estuary. The construction of the bridge also involved destruction of natural forest on the approach from the Tiracol village side.

During the proceedings, the Appellant produced documentary evidence on record to show that the alignment of the Rs.77 crore bridge was designed to suit the interest of a private luxury golf course project coming up in Tiracol village. Some of the upper end villas proposed as part of the project would cost customers Rs.20 crore each. The golf course project has since been stayed at primary stage by the Hon'ble High Court of Bombay on grounds that it may violate the provisions of the Goa Agricultural Tenancy Act, 1964.

The Ld. NGT, vide the first impugned order dated 22.1.2020, disposed of the OA No. 33/2015(WZ) without hearing the original applicant in violation of the principles of natural justice. The Appellant filed a miscellaneous application, Misc. Application No. 21/2021 (WZ), praying for the recall of the order dated 22.01.2020 passed in O.A. No. 33/2015 (WZ). The Special Bench of the Ld. NGT erroneously disposed of the M.A. No. 21/2021 (WZ) vide the second impugned order dated 17.01.2022 without correctly appreciating the Appellant's submissions. The Ld. NGT merely held that in view of the grant of CRZ clearance and 'in principle' approval under the Forest (Conservation) Act, 1980, no interference would be called for.

The Appellant's grievance is that the Ld. NGT has not heard the Appellant on the principal challenges to the construction of the bridge: namely, the permissibility of construction of a bridge on a CRZ I beach and that the bridge’s alignment is in violation of the approved Coastal Zone Management Plan of 27.9.1996.

The construction of the bridge was stayed by the Ld. NGT in 2015 during the pendency of the O.A. No. 33/2015 (WZ), and had remained stayed, for over 5 years. The Ld. NGT, Western Zone Bench, during this period, became non-functional due to various reasons including the non-constitution of the Western Zone bench, and the Appellant in Goa was under gross uncertainty about the hearing of their matters which would sometimes be taken up suddenly by the Principal Bench of the Ld. NGT in New Delhi, with extremely short notice to the parties. On 22.01.2020, the Appellant’s AOR in Pune was unable to attend the matter due to personal difficulty. A junior colleague was asked to stand in and request for time and date for a hearing. The said lawyer pleaded for a brief adjournment and for fixing a date for hearing the matter, as the counsel who attended the matter was in Goa and had a heavy burden of High Court matters, and could not appear due to the short notice. However, the Ld. Tribunal refused to accommodate this request, and after perusing the contents of the paper book on its own, decided the application and disposed it off without hearing the Appellant.

Thereafter, the Appellant herein approached the Hon’ble High Court of Bombay at Goa against the order dated 22.01.2022, and was given liberty by the Hon’ble High Court to approach the Principal Bench of the NGT, and recorded that it hoped the Ld. NGT would consider the issue, keeping in view the High Court’s directives on the approach that courts/ tribunals have to adopt during the pandemic. With these directions, the Appellant filed a miscellaneous application, Misc. Application No. 21/2021 (WZ), praying for the recall of the 22.01.2020 order passed in O.A. No. 33/2015 (WZ). However, the Special Bench of the Ld. NGT erroneously disposed of the Misc. Application No. 21/2021 (WZ) vide the second impugned order dated 17.01.2022 without correctly appreciating the Appellant’s submissions. The Ld. NGT merely held that in view of the grant of CRZ clearance and in principle approval under the Forest (Conservation) Act, 1980, no interference would be called for.

The Appellant approached the Hon’ble High Court of Bombay at Goa in Writ Petition No. 557/2022 (F) against the order dated 17.01.2022 in Misc. Application No. 21/2021 (WZ) passed by the Ld. National Green Tribunal, Special Bench. However, vide order dated 29.04.2022, the Hon’ble High Court permitted the Appellant to withdraw the said writ petition with liberty to take recourse to appropriate remedy in the matter.

Hence, the present Civil Appeal.

LIST OF DATES AND EVENTS

2006	M/s Leading Hotels Ltd and Hotel Four Seasons arrived in Tiracol village, North Goa, and commenced the purchase of village lands, most of which were covered under the provisions of the Goa Agricultural Tenancy Act, 1964. The Act neither permits sale of tenanted lands nor conversion of such lands to non-agriculture purposes.
2008-2010	A bridge joining Querim village in north Goa with Tiracol village across the Tiracol river was finalised by the government. The alignment of the bridge across the Tiracol river is shown in the statutory land use Regional Plan 2021 which was notified and is still in force. No ecological damage is envisaged by this alignment: no damage to beach, estuary, river or forest. The approved Coastal Zone Management Plan (CZMP) for Goa which designated Querim beach as CRZ I due to its “outstanding beauty and presence of sand dunes,” approved in 1996, has not been replaced till date.
06.01.2011	The Coastal Regulation Zone Notification, 2011 came into force, replacing the CRZ Notification, 1991. The

	CZMP of 1996, however, continued to remain in force wherein the beach is designated as CRZ I.
05.06.2012	M/s Leading Hotels Ltd., wrote to the Chief Minister of Goa about the *"Four Seasons Golf Resort Bridge over River Tiracol,"* recalling earlier discussions with the Chief Minister who had accepted the company's offer to design the bridge and coordinate with the Goa State Infrastructure Development Corporation (GSIDC), an agency of the Goa government (Respondent No. 3 herein), for execution of the design. M/s Leading Hotels Ltd. stated that it had appointed "Web Structures," Singapore, to design the bridge and its GCR (Golf Course Resort) project. M/s Leading Hotels Ltd. requested a site visit of the area by the GSIDC and the MLA of Mandrem (Mr. Laxmikant Parsekar, then CM) on the 6th/7th June 2012, when the Managing Director of Web Structures was scheduled to visit Goa, for onsite deliberations and finalisation of bridge span locations. The location and alignment of the bridge was illegally

	changed and brought into the beach area to suit the needs of the GCR (Golf Course Resort) project.
07.06.2012	A meeting of GSIDC and M/s Leading Hotels Ltd. pertaining to Tiracol bridge project was held. The minutes of the meeting record that the alignment proposed by Web Structures was accepted by GSIDC. Alignment of bridge shown in the RP 2021 is side-lined. The minutes record that M/s Leading Hotels Ltd. will submit survey numbers required for acquisition for bridge project. M/s Leading Hotels was also appointed to conduct land survey, geo-technical survey, bathymetric survey in river and establish benchmarks like HTL, LTL, etc.
08.06.2012	The Agenda Note for GSIDC's Board meeting and file notings discuss the involvement of M/s Leading Hotel Ltd. in finalising the location, alignment and design of the Tiracol bridge
13.06.2012	The Goa State Infrastructure Development Corporation wrote to M/s Leading Hotels Ltd. requesting that a progress report be submitted every 7 days and proposed to hold review meetings every 15 days.

July 2012	The designers appointed by M/s Leading Hotels Ltd., i.e., Web Structures, Singapore produced "Part of the Preliminary Report for Initial Costing" connected with the proposed bridge.
07.08.2012	M/s Leading Hotels Ltd. sought clarifications from GSIDC regarding aspects raised by its designers, Web Structures, regarding the bridge design.
11.08.2012	M/s Leading Hotels Ltd. requested permission from the Captain of Ports Department, Government of Goa to undertake a Hydrographic Study at the mouth of River Tiracol, which would be conducted by HAM Surveyors who were awarded the contract to undertake the study.
28.05.2013	A press release was issued by Web Structures, Singapore, titled *"Web Structures Builds Bridge to a Brighter Future."*
12.08.2013	An Inspection Report of the bridge site was submitted by officers of the Captain of Ports Department and GSIDC. It was confirmed from the Captain of Ports Department that representatives of M/s Leading Hotels Ltd. were also

	present for the site inspection, and in fact the arrangements were made by M/s Leading Hotels Ltd.
22.02.2014	The Respondent No. 3 herein, GSIDC issued a Work Order to the successful tenderer for the construction of the bridge.
13.07.2014	The Appellant first became aware of the proposed bridge. The work appeared to be at a primary stage, bore holes were being drilled. There was no board at the site displaying any approvals, except for a plaque stating that the project had been inaugurated by the Chief Minister and MLAs.
14.07.2014	The Appellant made a complaint with the GCZMA stating that development work in connection with a bridge was being carried out in the NDZ.
07.08.2014	The Appellant inspected the file at GCZMA office under RTI and subsequently obtained the documents requested.
25.09.2014	The Appellant filed Appeal No. 31/2014 challenging GCZMA's NOC / approval dated 22.10.2013.
10.12.2014	The Ld. Adv. Gen made a statement before the Ld. NGT that work of project will not proceed further on Tiracol

	side (Sy. Nos 14 & 15) till clearance is obtained under the Forest (Conservation) Act, 1980.
22.12.2014	In the Appeal No. 31/2014 filed by the present Appellant, the Ld. NGT (Western Zone) stayed construction of Rs. 77 bridge across the Tiracol river within the CRZ in North Goa. The Ld. NGT directed that no further construction should be carried out on Querim side except on the land which has already been cut, and no construction should be carried out on Tiracol side unless forest clearance and prior approval of the Ld. NGT was obtained.
27.03.2015	The Ld. NGT upheld the preliminary objection in respect of limitation and dismissed Appeal No. 31/2014. However, the judgement permitted the Appellant herein to file appropriate proceedings to challenge the project / CRZ violation.
06.04.2015	After Appeal No. 31/2014 was disposed, the Appellant filed OA 33/2015 (WZ) before the Ld. NGT, Western Zone. The prayers in the O.A. No. 33/2015 (WZ) have been extracted below:

	a. Direct the removal of the construction works of Tiracol bridge partly being erected on Querim beach. *b. Direct the Respondent Nos. 1-4 to restore the beach of Querim to its original condition.* *c. Award appropriate costs for damage to the Querim beach and for its restoration.* *d. Pass such and further orders as this Hon'ble Tribunal may deem fit to grant.*
17.04.2015	Applying the Precautionary Principle, the Ld. NGT extended the earlier stay vide order in O.A. 33/2015 (WZ). The State of Goa was directed to seek report from CWPRS Pune/NIO Goa/NIOT Chennai regarding changes in tidal water activity and estuarine areas due to construction of pillars of the Bridge in Keri. The Ld. NGT clarified that in such study/report, points raised by the Appellant were to be considered, and the Report to be prepared within 4 weeks. The State of Goa placed on record before the Ld. NGT that responsibility of preparing Report was assigned to National Institute of Ocean Technology (NIOT) Chennai, which had indicated acceptance of such work. The Ld.

	NGT directed NIOT to frame Terms of Reference within 4 weeks.
02.09.2015	The Appellant conveyed the acceptability of TOR for NIOT to begin preparation of Report/Study. The Ld. NGT directed that the study was to commence after the monsoons, and to be completed within 4 months thereafter. On request by the State of Goa, the Ld. NGT granted additional time for finalization of NIOT Report. The Ld. NGT directed that ad interim relief, if any, be continued, therefore the relief granted by order dt.17.04.2015 was continued.
19.02.2016	The final report of NIOT dt. 17.02.2016 was placed on record before the Ld. NGT, and the parties were directed to respond to the Report.
30.03.2016	The Applicant filed a detailed affidavit in response to NIOT Report.
2015-2018	At least 24 hearings of O.A. 33/2015[WZ] took place in this period, with the Appellant attending all of these

	through its counsel, with the last hearing being on 02.07.2018.
03.07.2018 to 01.01.2020	The O.A. not listed before the NGT [WZ] due to non-functioning of the Western Bench of the Tribunal for various reasons.
January 2020	The Hon’ble Principal Bench of the NGT, began hearing matters pending before the NGT, Western Bench.
21.01.2020	The Appellant was informed by its AOR that O.A. 33/2015 was listed for hearing on 22.01.2020, i.e. the following day. Due to no prior notice/ intimation about the case being listed, the Appellant requested its AOR to seek a short adjournment. Due to the AOR being out of station and unable to attend, the junior of the AOR stood in and sought for a short adjournment. The Hon’ble National Green Tribunal (Principal Bench) rejected this request and passed an order disposing of O.A. 33/2015 (WZ).
11.03.2021	The Hon'ble High Court of Bombay at Goa disposed of W.P. 183/2021 [F] vide order dt. 11.03.2021, giving the Appellant liberty to approach the Principal Bench of the Hon'ble NGT.

31.07.2021	The Appellant received an authenticated copy of order dt. 11.03.2021 passed by the Hon'ble High Court of Bombay at Goa in W.P. 183/2021 [F].
04.09.2021	The O.A. No. 33/2015(WZ) filed with Principal Bench of Hon'ble NGT was subsequently returned by the Registry informing the Appellant herein to approach the Hon'ble NGT, Western Zone Bench.
05.10.2021	The Misc. Application No. 21/2021 [WZ] in O.A. 33/2015 was filed by the Appellant herein.
December 2021	The judicial member of the Western Zone resigned, and the duly constituted Western Zone bench ceased functioning.
17.01.2022	The Misc Application No. 21/2021 [WZ] which was listed before the Special Bench of the Ld. NGT, and the Application was disposed of without addressing any of the points raised by the Appellant herein.
11.03.2022	The Appellant herein filed Writ Petition No. 557/2022 [F] filed by in the Hon’ble High Court of Bombay at Goa, assailing the order dated 17.01.2022 passed by the Hon’ble National Green Tribunal (Special Bench).

29.04.2022	W.P. 557/2022 [F] was withdrawn by the Appellant before the Hon’ble High Court of Bombay at Goa, with liberty to take recourse to the appropriate remedy in the matter.
30.05.2022	Hence, the present Civil Appeal.

Item No. 08

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI
(Through Video Conferencing)

Original Application No. 33/2015 (WZ)

Goa Foundation Applicant(s)

Versus

Goa State Environment Impact
Assessment Authority & Ors Respondent(s)

Date of hearing: 22.01.2020

CORAM: **HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON**
HON'BLE MR. JUSTICE S.P. WANGDI, JUDICIAL MEMBER
HON'BLE MR. SIDDHANTA DAS, EXPERT MEMBER

Applicant(s): Ms. Swayamprabha holding for Mrs. Supriya Dangare, Advocate for Applicant.
Respondent(s): Ms. Ruchira Gupta, Advocate for R-3
Mr. Milind M. Mahajan, Advocate for Respondent No. 6

ORDER

1. This application challenges construction of Tiracol Bridge partly being erected on Querim beach in Goa on the ground that there is violation of CRZ Notification which requires prior approval of the MoEF&CC/SEIAA. According to the applicant, construction is in No Development Zones (NDZ) and no mitigation measures have been taken against possible adverse consequences on fishing.

2. Considering the above grievance, this Tribunal vide order dated 17.04.2015 sought response from concerned authorities and directed *status quo* as a result of which the construction has remained stopped. The Tribunal also

sought an expert report in the matter from National Institute of Ocean Technology, Chennai (NIOT).

3. Accordingly, report was filed by NIOT on 08.02.2016. However, the same is being considered today on account of repeated adjournments at the instance of one or the other party. Even today, adjournment is sought which is declined.

4. In substance, the report is that during construction mitigation measures need to be taken. The observations and recommendations are as follows:-

> ***"Observations***
>
> *The analysis of long term data with satellite imageries indicate that pillar 6 is normally submerged in sandpit due to natural processes. However, occasionally there could be exposure of pillar 6 due to high fresh water discharge from the catchment.*
>
> *The maximum anticipated depth at bridge pillar 6 is 0.8 m which may occur during high river discharge. The simulations were conducted to this worst case scenario for fair weather and monsoon conditions. Under the above condition, the effective are of obstruction at pillar no. 6 is 3.84 sq.m against the total cross sectional area channel 900 sq.m, which is not significant.*
>
> *The simulation studies indicate no significant accretion during monsoon season. But during fair weather from October to April, an accretion of 10 to 20 m is noticed around the pillar location. The flow simulation with this condition indicates no significant changes in the water exchange between estuary and Open Ocean.*
>
> ***Recommendations***
>
> - *Increase in the elevation of pile cap by 1m above high flood level to allow natural movement of the sand.*
> - *Monitoring of the morphological changes of sand spit at the bridge pillar no. 6 at closed internal to study the seasonal and long term variability.*
> - *Monitoring the shoreline changes up to 2km on either side of the pillar no. 6, both in open coast as well as estuary."*

5. Having regard to the fact that Tiracol Bridge may be a matter of public utility and the same can be constructed without any adverse damage to the environment, there is no justification to stop the same in absence of any illegality being shown.

6. Accordingly, we dispose of this application with a direction that the construction of Tiracol Bridge may proceed after taking all due precautions in accordance with law, particularly all the observation and recommendations of the NIOT.

Adarsh Kumar Goel, CP

S.P. Wangdi, JM

Siddhanta Das, EM

January 22, 2020
O.A. No. 33/2015 (WZ)
A

NATIONAL GREEN TRIBUNAL, NEW DELHI

Item No. 04 (Court No. 1)

BEFORE THE NATIONAL GREEN TRIBUNAL
SPECIAL BENCH

(By Video Conferencing)

Misc. Application No. 21/2021(WZ)
(I.A. No. 124/2021)
IN
O.A. No. 33/2015(WZ)

The Goa Foundation Applicant

Versus

Goa State Environment Impact
Assessment Authority & Ors. Respondent(s)

Date of hearing: 17.01.2022

CORAM: **HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON**
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE MR. JUSTICE BRIJESH SETHI, JUDICIAL MEMBER
HON'BLE PROF. A. SENTHIL VEL, EXPERT MEMBER
HON'BLE DR. AFROZ AHMAD, EXPERT MEMBER

Applicant:	Ms. Norma Alvaris, Advocate for Applicant in M.A. 21/2021(WZ)
Respondent(s):	Ms. Ruchira Gupta Advocate for R-1,2,4 & 5 Ms. Bhavya Pande, Advocate for R-3 (GSIDC) Mr. Milind M. Mahajan, Advocate for R-6

ORDER

Misc. Application No. 21/2021(WZ)

1. This application has been filed to recall order of this Tribunal dated 22.01.2020 in O.A. No. 33/2015, *Goa Foundation vs. Goa State Environment Impact Assessment Authority & Ors.* By the said order, the Tribunal dealt with the issue of compliance of environmental norms in construction of Tiracol Bridge on Querim beach in Goa. After considering

a report filed by National Institute of Ocean Technology, Chennai (NIOT) dated 08.02.2016 that the bridge could be constructed subject to mitigation of adverse impact and subject to compliance of recommendations mentioned therein, the Tribunal disposed of the application with the direction that construction of the bridge should be after taking all necessary precautions and complying with the recommendations of NIOT. The operative part of the order is reproduced below:-

> *"4. In substance, the report is that during construction mitigation measures need to be taken. The observations and recommendations are as follows:-*
>
> ***"Observations***
>
> *The analysis of long term data with satellite imageries indicate that pillar 6 is normally submerged in sandpit due to natural processes. However, occasionally there could be exposure of pillar 6 due to high fresh water discharge from the catchment.*
>
> *The maximum anticipated depth at bridge pillar 6 is 0.8 m which may occur during high river discharge. The simulations were conducted to this worst case scenario for fair weather and monsoon conditions. Under the above condition, the effective are of obstruction at pillar no. 6 is 3.84 sq.m against the total cross sectional area channel 900 sq.m, which is not significant.*
>
> *The simulation studies indicate no significant accretion during monsoon season. But during fair weather from October to April, an accretion of 10 to 20 m is noticed around the pillar location. The flow simulation with this condition indicates no significant changes in the water exchange between estuary and Open Ocean.*
>
> ***Recommendations***
>
> - ***Increase in the elevation of pile cap by 1m above high flood level to allow natural movement of the sand.***
> - ***Monitoring of the morphological changes of sand spit at the bridge pillar no. 6 at closed***

> ***internal to study the seasonal and long term variability.***
>
> - ***Monitoring the shoreline changes up to 2km on either side of the pillar no. 6, both in open coast as well as estuary.”***
>
> *5. Having regard to the fact that Tiracol Bridge may be a matter of public utility and the same can be constructed without any adverse damage to the environment, there is no justification to stop the same in absence of any illegality being shown.*
>
> *6. Accordingly,* ***we dispose of this application with a direction that the construction of Tiracol Bridge may proceed after taking all due precautions in accordance with law, particularly all the observation and recommendations of the NIOT****.”*

2. The applicant preferred *Writ Petition No. 183 of 2021 (F), The Goa Foundation, thr. its Secretary & 4 Ors. vs. Goa State Environment Impact Assessment Authority thr. Its Secretary & 5 Ors.* before the High Court of Bombay at Goa with the grievance that the applicant could not put forward its point before the Tribunal. The High Court disposed of the petition vide order dated 11.3.2021, giving liberty to the applicant to approach this Tribunal again to highlight its grievance.

3. In pursuance of above, this application has been filed. The points raised in the application *inter-alia* are:-

> *“8. The O.A No. 33/2015 challenges the construction of a Rs. 77 crore "signature bridge" extravaganza proposed in the CRZ I of Querim beach in north Goa, across the estuarine mouth of the Tiracol river to the forested slopes of Tiracol village on the other side of the river. The O.A raises the following challenges:*
>
> *(i) that the construction of the bridge in CRZ I violates the provisions of the CRZ Notification, 2011;*
>
> *(ii) that the construction violates the Forest Conservation Act, 1980 as there is no prior approval from the Ministry of Environment;*
>
> *(iii) that the construction of the bridge would destroy forever several permanent ecological assets in Goa, including the beautiful Querim beach, the natural forest on*

> *Tiracol hill and the Tiracol estuary which is highly dynamic, due to river/sea interface;*
>
> *(iv) that the estuarine area, also being the principal fishing grounds of the villagers, would be damaged by the piers to be located in the estuary on both sides of the Tiracol river;*
>
> *(v) that the alignment of the bridge was decided at the behest of the owners of a proposed luxury golf course resort to be constructed in Tiracol i.e. chiefly for private purpose although propped up as a public utility.*

> 9. *The construction of the bridge was first stayed in December 2014 by the Hon'ble NGT (WZ) in Appeal No. 31/2014 (filed by this applicant) on the grounds that "prima facie, there is material to show that there is violation of the CRZ notification". After the appeal was disposed of, the applicant filed 0.A No 33/2015 and the stay of the project was continued vide Order dated 17.4.2015 right up to disposal of the O.A No 33/2015 on 22.01.2020. A copy of the order dated 17.4.2015 in 0A 33/2015 is enclosed as* ***Annexure D.*** *Even post the Hon'ble Tribunal's order dated 22.01.2020, no work has resumed on the bridge and the situation at loco is the same as when the Hon'ble NGT first stayed the project.*
>
> 10. *Applicant states that as the project's stage I forest clearance has already expired, the bridge cannot be constructed at present. In the meanwhile, the private company's proposed golf course project has also been stayed by the Hon'ble High Court and there are media reports that the proponents of the golf course resort have filed for bankruptcy. The construction of such a grandiose bridge in such circumstances would be a futility, besides waste of public funds, in addition to causing unwarranted environmental distress.*
>
> 11. *The impugned order dated 22.01.2020 shows that this Hon'ble Tribunal has disposed of the application chiefly on the basis of a report received from the National Institute of Ocean Technology (NIOT) who had been directed to examine the ecological impact of two piers of the bridge proposed for construction within the estuary of the Tiracol river. Applicant submits that this was only one of the several issues raised in the OA and the others have not been examined by this Hon'ble Tribunal. For that matter, the applicant was not heard on its concerns regarding the NIOT report either. Thus, the Hon'ble Tribunal has not dealt with the various issues raised in the petition including the serious violation of laws meant to protect the environment. Hence, the applicant prays that this Hon'ble Tribunal may hear the applicant on the issues raised in the application in public interest and in the interest of environmental conservation as well."*

4. Without going into any technicality, we have considered the issue once again but do not find any merit in the case of the applicant.

5. As stated above, the applicant had earlier preferred *Appeal No. 31/2014, The Goa Foundation vs. Goa Coastal Zone Management Authority & Ors.* against minutes of the GCZMA for grant of necessary approval which was dismissed by this Tribunal vide order dated 27.03.2015. The Tribunal noted that the GCZMA permission stood granted on 22.05.2011 and the project is exempted from EIA notification. The observations in the said order are reproduced below:-

> *"14. The Affidavit of Member Secretary of GCZMA shows that, **permission of GCZMA was granted to the project of bridge in question i.e Bridge between river Tiracol and Keri as per communication dated 22nd May, 2011.** His affidavit shows that, the proposed bridge from Keri to Tiracol is of 13 Mtrs and comprises of 10 (Ten) Piers. Out of them, 2(Two) Piers will be erected in the NDZ area towards Keri side and 2 (Two) Piers will be erected within in the NDZ area towards Tiracol side. The total area of land occupied on Keri side will be only of 21 Sq.Mtrs under the Piers and rest of the bridge will be suspended in the air above NDZ area, which would not involve any environmental degradation at all.*
>
> *His affidavit further purports to show that, **the construction of bridge is exempted under the EIA Notification from procedure to seek permission**. Moreover, the CRZ Notification gives authority to the GCZMA and the Notification itself exempts the construction activities of the bridge from the CRZ Clearance."*

6. The Tribunal dismissed the appeal as barred by limitation and the said order admittedly attained finality. Only liberty granted was to file an application or petition against the project/CRZ order of non-compliance. Status quo for two weeks was also granted. The operative part of the order is reproduced below:-

> *"23. Considering the fact that prima facie there appears certain material, which indicate violation of CRZ, we grant liberty to the Applicant to file Application or any petition as may be permissible under the Law to challenge the impugned project/ CRZ order non-compliance and for that two (2) weeks the Status quo is continued, as per the statement made by the learned Advocate General."*

7. Thereafter, the applicant filed O.A. No. 33/2015, which was disposed of on 22.01.2020. Thus, scope of the said application does not go beyond the liberty aforesaid to consider CRZ violation, if any.

8. Learned Counsel for Respondent No. 3, Goa State Infrastructure Development Corporation (GSIDC) submitted that CRZ Clearance has been duly granted which is not under challenge. Further, in principle Forest Clearance has also been duly granted. Construction of bridge will advance public purpose and all precautions for protection of environment will be taken in the course of such construction.

9. We have duly considered the liable submissions.

10. In view of the fact that CRZ Clearance has been granted against which appeal has been dismissed and in principle approval under the Forest (Conservation) Act, 1980 Act has also been granted, no interference is called for by this Tribunal. However, by way of precaution, it may be necessary to direct that compliance of conditions for such clearances must be ensured.

11. Accordingly, we direct Secretary, Environment, Goa, PCCF (HoFF), Goa, SEIAA, Goa and Goa Coastal Zone Management Authority (GCZMA) to monitor the compliance of conditions for permissions under the CRZ Regulation as well as under the Forest (Conservation) Act, 1980 by the PP, including recommendations of NIOT. Subject to such monitoring, it will be open to the PP to proceed with the construction complying with all such conditions, including undertaking requisite afforestation and depositing Net Present Value (NPV) and other environmental safeguard measures, which may be overseen by the statutory regulators.

The application stands disposed of accordingly. All pending IAs will also stand disposed of.

A copy of this order be forwarded to the Secretary, Environment, Goa, PCCF (HoFF), Goa, SEIAA, Goa and GCZMA by e-mail for compliance.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Brijesh Sethi, JM

Prof. A. Senthil Vel, EM

Dr. Afroz Ahmad, EM

January 17, 2022
Misc. Application No. 21/2021(WZ)
(I.A. No. 124/2021) In
O.A. No. 33/2015(WZ)
SN

IN THE HON'BLE SUPREME COURT OF INDIA
CIVIL APPELLATE JURISDICTION
CIVIL APPEAL NO. ________ OF 2022
(Under Section 22 of the NGT Act, 2010)

[Against the impugned judgment and final order dated 22.01.2020 passed by the Ld. National Green Tribunal, Principal Bench, Delhi in O.A. No. 33/2015 [WZ] and the impugned judgment and final order dated 17.01.2022 passed by the Ld. National Green Tribunal, Special Bench in Misc. Application No. 21/2021(WZ) in O.A. No. 33/2015(WZ)]

IN THE MATTER OF:

IN O.A.NO. 33/2015 (WZ):

POSITION OF PARTIES

	IN THE HON'BLE NATIONAL GREEN TRIBUNAL	IN THIS HON'BLE COURT
BETWEEN		
The Goa Foundation, Through its Secretary, with registered address at Room No 7, Above Mapusa Clinic, Mapusa, Goa - 403507.	Applicant	Appellant

Versus		
1. THE GOA STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY, through its Secretary, c/o Goa Pollution Control Board, Near Pilerne Industrial Estate, Opposite Saligao Seminary, Saligao, Bardez, Goa – 403511.	Respondent No. 1	Contesting Respondent No. 1
2. THE GOA COASTAL ZONE MANAGEMENT AUTHORITY, through its Member Secretary, 4th Floor, Dempo Towers, Patto, Panaji, Goa, 403001.	Respondent No. 2	Contesting Respondent No. 2
3. THE GOA STATE INFRASTRUCTURE DEVELOPMENT CORPORATION, through its Managing Director, 7th Floor, EDC House, Dr. Atmaram	Respondent No. 3	Contesting Respondent No. 3

Borkar Road, Panaji, Goa – 403001.		
4. THE STATE OF GOA, through its Chief Secretary, c/o Secretariat, Porvorim, Goa - 403521.	Respondent No. 4	Contesting Respondent No. 4
5. THE PRINCIPAL CHIEF CONSERVATOR OF FORESTS, Forest Department, Government of Goa, 'Van Bhavan', Altinho, Panaji, Goa – 403001.	Respondent No. 5	Contesting Respondent No. 5
6. THE MINISTRY OF ENVIRONMENT, FORESTS & Climate Change,through its Secretary, with address at: Indira Paryavaran Bhavan, Jor Bagh Rd, New Delhi - 110003.	Respondent No. 6	Contesting Respondent No. 6

AND IN THE MATTER OF MISC. APPLICATION NO. 21/2021 (WZ) FILED IN O.A.NO. 33/2015 (WZ):

The Goa Foundation,	Applicant	Appellant

with registered address at Room No 7, Above Mapusa Clinic, Mapusa, Goa - 403507.		
Versus		
1. THE GOA STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY, Through its Secretary, c/o Goa Pollution Control Board, Near Pilerne Industrial Estate, Opposite Saligao Seminary, Saligao, Bardez, Goa – 403511.	Respondent No. 1	Contesting Respondent No. 1
2. THE GOA COASTAL ZONE MANAGEMENT AUTHORITY, through its Member Secretary, 4th Floor, Dempo Towers, Patto, Panaji, Goa, 403001.	Respondent No. 2	Contesting Respondent No. 2
3. THE GOA STATE INFRASTRUCTURE DEVELOPMENT CORPORATION,	Respondent No. 3	Contesting Respondent No. 3

through its Managing Director, 7th Floor, EDC House, Dr. Atmaram Borkar Road, Panaji, Goa – 403001.		
4. THE STATE OF GOA, through its Chief Secretary, c/o Secretariat, Porvorim, Goa - 403521.	Respondent No. 4	Contesting Respondent No. 4
5. THE PRINCIPAL CHIEF CONSERVATOR OF FORESTS, Forest Department, Government of Goa, 'Van Bhavan', Altinho, Panaji, Goa – 403001.	Respondent No. 5	Contesting Respondent No. 5
6. THE MINISTRY OF ENVIRONMENT, FORESTS & Climate Change, through its Secretary, with address at: Indira Paryavaran Bhavan, Jor Bagh Rd, New Delhi - 110003.	Respondent No. 6	Contesting Respondent No. 6

APPEAL UNDER SECTION 22 OF THE NATIONAL GREEN TRIBUNAL ACT, 2010

THE HON'BLE CHIEF JUSTICE AND HIS COMPANION JUDGES OF THE HON'BLE SUPREME COURT OF INDIA

THE HUMBLE APPEAL OF THE
APPELLANT ABOVE NAMED

MOST RESPECTFULLY SHOWETH:

1. The present appeal has been filed under Section 22 of the National Green Tribunal Act, 2010 to challenge the order dated 22.01.2020 passed by the Ld. National Green Tribunal, Principal Bench, New Delhi disposing of O.A. No. 33/2015[WZ], and order dated 17.01.2022 passed by the Ld. NGT, Special Bench disposing of Misc. Application No. 21/2021(WZ) filed for the recall of the order dated 22.01.2020 passed in O.A. No. 33/2015(WZ).

2. **SUBSTANTIAL QUESTIONS OF LAW:**

   A. Whether the manner in which the impugned order of the Ld. NGT was passed without hearing the Appellant herein and without due consideration of the issues raised in the OA amounts to a violation of the rules of natural justice?

B. Whether such a violation of natural justice takes up a more serious complexion given that the lis before the Ld. NGT was not a private dispute but involved the potential degradation of one of Goa's most beautiful beaches, the rights of the public to such beaches and the rights of future generations, as enshrined in the principle of inter-generational equity and Article 21 of the Constitution of India?

C. Whether the Ld. NGT failed to appreciate that a bridge primarily being erected for the benefit of a private tourism resort cannot be permitted to be classified as a *'public utility project'* and be funded by the Government?

D. Whether any construction can be permitted in the CRZ I area of Querim beach which is NDZ as per the CRZ Notification, 2011?

E. Whether any construction can be permitted in an area identified as a forest, without prior permission under the Forest Conservation Act, 1980?

ARRAY OF PARTIES:

3. The Appellant is a society registered under the Societies Registration Act, 1860 under No. 23/Goa/86 and is represented by its Secretary, Dr Claude Alvares, as described in the cause-title hereinabove. The

Appellant has been in the forefront of espousing causes for the protection of the environment in this Hon’ble Court, the Hon’ble National Green Tribunal and other forums. The Appellant was the Original Applicant before the National Green Tribunal and the Respondents were the Respondent No.1 to 6 therein, respectively in OA No. 33/2015 (WZ). The Respondent No. 1 is the Goa State Environment Impact Assessment Authority, an authority constituted to take measures to protect and improve the quality of the environment as mandated in the EIA Notification, 2006 for scrutiny, appraisal and issuance of prior environmental clearance. The Respondent No. 2 is the Goa Coastal Zone Management Authority, which is statutorily mandated to take measures for the protection and improvement of the quality of the coastal environment in the State of Goa. The Respondent No. 3 is the Goa State Infrastructure Development Corporation, which is the government agency responsible for the execution of the project in question. The Respondent No. 4 is the State of Goa, represented by its Chief Secretary. The Respondent No. 5 is the Principal Chief Conservator of Forests, Government of Goa. The Respondent No. 6 is the Ministry of Environment, Forests & Climate Change.

BRIEF FACTS:

4. The project in question is a 77 crore INR ‘signature bridge’ proposed to be built in the CRZ I of Querim beach in North Goa, across the estuarine mouth of the Tiracol river, to the forested slopes of Tiracol village on the other side of the river. The project is being executed by the Goa State Infrastructure Development Corporation (GSIDC).

5. The Appellant filed Appeal No. 31/2014 before the NGT-WZ challenging the CRZ clearance of the project in question. The Ld. NGT stayed the project in December 2014, but subsequently dismissed the appeal on the ground that it was barred by limitation. However, the Ld. Tribunal granted the Appellant liberty to file appropriate proceedings as the material on record *prima facie* indicated violation of the CRZ Notification, 2011:

> *“23. **Considering the fact that prima facie there appears certain material, which indicate violation of CRZ, we grant liberty to the Applicant to file Application or any petition as may be permissible under the Law to challenge the impugned project/ CRZ order non-compliance and for that two (2) weeks the Status quo is continued,** as per the statement made by the learned Advocate General.”*
>
> (emphasis supplied)

A copy of the order dated 27.03.2015 in Appeal No 31/2014 is annexed herewith and marked as **Annexure A-1 (Pages 52 to 65).**

6. In view of the order of the Ld. Tribunal in Appeal No. 31/2014, the Appellant filed O.A No. 33/2015 (WZ) before the Ld. NGT, Western Zone Bench on 06.04.2015. The prayers in the O.A. No. 33/2015 (WZ) have been extracted below:

   a. *Direct the removal of the construction works of Tiracol bridge partly being erected on Querim beach.*
   b. *Direct the Respondent Nos. 1-4 to restore the beach of Querim to its original condition.*
   c. *Award appropriate costs for damage to the Querim beach and for its restoration.*
   d. *Pass such and further orders as this Hon'ble Tribunal may deem fit to grant.*

   A copy of the Original Application No. 33/2015 (WZ) filed on 06.04.2015 by the Appellant is annexed herewith and marked as **Annexure A-2 (Pages 66 to 77).**

7. The O.A No. 33/2015 (WZ) raised the issues which have been summarised below:

I. That the construction of the bridge in CRZ I violates the provisions of the CRZ Notification, 2011

a) The construction of the bridge involves two piers in the NDZ of the Querim beach and two piers in the NDZ of the Tiracol CRZ. The southern bridge approach is the beach section of the Querim CRZ which has been declared as CRZ I in the Goa Coastal Zone Management Plan 1996 because of its great beauty. The bridge is being constructed in Sy Nos 110,111 and 112 of Querim village, all of which fall within the 500 m zone from the HTL of the sea. Sy No. 110 also falls within 100m from the riverbank. Part of the construction is to be located on sand dunes in the Querim CRZ.

b) The abovementioned construction is prohibited in the CRZ Notification, 2011. These areas are shown as NDZ as per the approved Coastal Zone Management Plan 1996, as well as the Draft CZMP prepared in 2020, which is yet to be finalized by the Government of Goa.

A copy of the relevant extract of the CZMP 1996 has been annexed hereto and marked as **Annexure A-3 (Pages 78-82)**.

A copy of the relevant extracts of the draft CZMP, 2020 has been annexed hereto and marked as **Annexure A-4 (Pages 83-84)**.

c) Further, on the Querim side, the piers will be located on the spit formation of the beach. The spit area is the dynamic land-sea area, changing morphologically over the years. No piers ought to be placed on such a spit as the disturbance of the spit would impact the narrow estuary. The ecological consequences of situating a major construction activity in a delicate, dynamic area ought to have been well considered, and in advance before taking such a major step that would disastrously impact the CRZ. However, no such studies have been conducted.

d) An NOC for the project was granted by the GCZMA on 22.10.2013. However, the Appellant submits that such a project requires the approval of the SEIAA and the GCZMA only has recommendatory powers. An Office Memorandum issued by the MoEF&CC dated 08.02.2011 has clarified this position. The O.M *inter alia* clarifies that a project that does not attract the EIA Notification that is recommended by the GCZMA (such as the impugned project) shall be forwarded to the SEIAA/MoEF for clearance. To the best knowledge of the Appellant, no permission has been granted by the SEIAA for this project.

A copy of the Office Memorandum issued by the MoEF&CC dated 08.02.2011 has been annexed hereto and marked as **Annexure A-5 (Pages 85 to 87).**

II. That the construction violates the Forest (Conservation) Act, 1980 as there was no prior approval obtained from the Ministry of Environment & Forests;

a) The area where the bridge terminates on the northern side is in the forest zone identified by the Thomas committee, namely Sy No 14 and 15 of Tiracol village for which admittedly no prior approval under the Forest (Conservation) Act, 1980 had been obtained. The construction of the bridge however, had already commenced and thus this was in violation of the MOEF&CC circular dated 21.03.2011 which clearly sets out no work may commence on any project in the non forest area if approval for diversion of forest in the forest area is yet to be obtained.

A copy of the circular dated 21.03.2011 issued by the MoEF is enclosed as **Annexure A-6 (Pages** 88)

b) Subsequently, during the course of the proceedings, an in-principle Forest clearance dated 30.12.2015 was granted by the Regional Office of the MoEF&CC. However, the same was granted despite the non-disclosure of crucial information and severe misrepresentation by the GSIDC - namely that the land on Sy No 14 and 15 was not owned by the GSIDC. A clarification to this effect was sought by the Forest Dept, Goa vide letter dated 09.02.2015. To the best knowledge of the appellant, this letter has not been responded to thus far.

A copy of the letter dated 09.02.2015 from the Dy. Conservator of Forests to the Managing Director, GSIDC has been enclosed as **Annexure A-7 (Page 89)**

c) In any case, as the forest clearance granted in 2015 is only valid for a period of 5 years and has now expired, the bridge cannot be constructed at present based on the same and fresh permission needs to be obtained from the Ministry of Environment under the FCA.

III. That the alignment of the bridge was decided at the behest of the owners of a proposed luxury golf course resort to be constructed in Tiracol, i.e., chiefly for private purpose although propped up as a public utility.

a) That that the present alignment of the bridge is solely for the benefit of a 5-star luxury golf course and resort proposed to be constructed in Tiracol Village. The present alignment in fact terminates in Tiracol at the property acquired by the resort. However, under the guise of purported 'public utility' the bridge is being constructed by the Government, using government funds - a staggering Rs. 77 crores.

b) The approved Regional Plan, 2021 (RP-2021) for the State of Goa shows a bridge proposed from Querim to Tiracol. However, the alignment as shown in the Regional Plan, 2021 has been disregarded and the new alignment is completely different from the bridge as located in the Regional Plan, 2021. The alignment as per the RP 2021 is in consonance with the provisions of the CRZ Notification, 2011 and the Forest (Conservation) Act, 1980. This alignment has been changed as proposed by the private party to suit their own private interest.

A copy of the alignment of the bridge as per the statutory Regional Plan 2021 is enclosed as **Annexure A-8** **(Page 90)**

c) The Appellant received certain documents via RTI which clearly establish the private purpose being served by the bridge, as well as the level of involvement of the private party in its construction- including that of the design as well as the alignment of the bridge and also in survey work and other such details. These documents clearly establish that the beneficiary of the project is primarily the Golf Course Resort project, as may be seen below:

i. On 05.06.2012, M/s Leading Hotels Ltd. wrote a letter to the Hon'ble Chief Minister of Goa recalling earlier discussions with the Chief Minister who had accepted the company's offer to design the bridge and coordinate with the Goa State Infrastructure Development Corporation (GSIDC) for execution of the design. The letter stated that Web Structures, Singapore had been appointed to undertake the bridge design and requested a site visit of the area for onsite deliberations and finalisation of bridge span locations.

A copy of the letter dated 05.06.2012 from M/s Leading Hotels Ltd. to the Chief Minister of Goa has been annexed hereto and marked as **Annexure A-9 (Pages 91-92)**

ii. A meeting of GSIDC and M/s Leading Hotels Ltd. pertaining to Tiracol bridge project was held. The minutes of the meeting record that the alignment proposed by Web Structures was accepted by GSIDC. Alignment of bridge shown in the RP 2021 is side-lined. The minutes record that M/s Leading Hotels Ltd. will submit survey numbers required for acquisition for bridge project.

A copy of the minutes of the meeting dated 07.06.2012 has been annexed hereto and marked as **Annexure A-10 (Pages 93-94)**

iii. The Agenda Note for GSIDC's Board meeting and file notings discuss the involvement of M/s Leading Hotel Ltd. in finalising the location, alignment and design of the Tiracol bridge.

A copy of the Agenda note dated 08.06.2012 along with file notings has been annexed hereto and marked as **Annexure A-11 (Pages 95-102)**

iv. The GSIDC addressed a letter dated 13.06.2012 to the Chief Executive Officer of Leading Hotels Ltd., requesting that a progress report be submitted every 7 days and proposed to hold review meetings every 15 days.

A copy of the letter dated 13.06.2012 from the GSIDC to M/s Leading Hotels Ltd. has been annexed hereto and marked as **Annexure A-12 (Page 103)**

v. In July 2012, the designers appointed by M/s Leading Hotels Ltd., i.e., Web Structures, Singapore brought out a report titled "Part of the Preliminary Report for Initial Costing" connected with the proposed bridge.

A copy of the report titled "Part of the Preliminary Report for Initial Costing" dated July 2012 has been annexed hereto and marked as **Annexure A-13 (Pages104-119)**

vi. M/s Leading Hotels Ltd. vide letter dated 07.08.2012 sought clarifications from GSIDC regarding aspects raised by its designers, Web Structures, regarding the bridge design.

A copy of the letter dated 07.08.2012 from M/s Leading Hotels Ltd. to the GSIDC has been annexed hereto and marked as **Annexure A-14 (Pages 120-121)**

vii. M/s Leading Hotels Ltd. requested permission from the Captain of Ports Department, Government of Goa to undertake a Hydrographic Study at the mouth of River Tiracol, which would be conducted by HAM Surveyors who were awarded the contract to undertake the study.

A copy of the letter dated 11.08.2012 from M/s Leading Hotels Ltd. to the Captain of Ports, Government of Goa has been annexed hereto and marked as **Annexure A-15 (Page 122)**

viii. A press release was issued by Web Structures, Singapore, titled *"Web Structures Builds Bridge to a Brighter Future."*

A copy of the press release dated 28.05.2013 issued by Web Structures, Singapore, titled *"Web Structures Builds Bridge to a Brighter Future"* has been annexed hereto and marked as **Annexure A-16 (Pages 123-124)**

ix. An Inspection Report of the bridge site dated 12.08.2013 was submitted by officers of the Captain of Ports Department and GSIDC. It was confirmed from the Captain of Ports Department that representatives of M/s Leading Hotels Ltd. were also present for the site inspection.

A copy of the Inspection Report of the bridge site dated 12.08.2013 submitted by officers of the Captain of Ports Department and GSIDC has been annexed hereto and marked as **Annexure A-17 (Pages 125-126).**

IV. That the construction of the bridge would destroy forever several permanent ecological assets in Goa

a. It was the Appellant’s contention that this huge bridge construction would mar the beauty of the area besides being extremely destructive of the ecology, including the beautiful Querim beach, the natural forest on Tiracol hill and the Tiracol estuary which is highly dynamic, due to river/sea interface. The Querim beach is the only area recorded as CRZ-I in the Goa Coastal Zone Management Plan because of its outstanding beauty. It is the combination of the pristine beach adjacent to the broad estuary of the Tiracol river, with rugged forested slopes on the other side of the river which gives the entire area a unique setting. Construction of a bridge right across this scenic spot would mar its natural beauty altogether.

V. That the estuarine area, also being the principal fishing grounds of the villagers, would be damaged by the piers to be located in the estuary on both sides of the Tiracol river;

a. It is also pertinent to note that Tiracol is primarily a fishing village and the estuarine area is the principal fishing ground. The village is detached from the land mass of the State of Goa and the villagers are largely self-sufficient and heavily dependent on the fish catch from the river and the sea. Destruction and interference in the estuarine area by location of the piers of the bridge in the river waters would in fact severely impact the livelihoods of the residents of this area who the proposed bridge is purported to serve.

8. The Ld. NGT, Western Zone Bench continued the status quo of the project earlier ordered, in a fresh order dated 17.04.2015 in O.A No 33/2015(WZ). At the time of filing of the OA No. 33/2015(WZ), the construction of the bridge had only recently commenced on the outskirts of the river. A copy of the order dated 17.04.2015 in O.A. No. 33/2015 has been annexed herewith and marked as **Annexure A-18 (Pages 127-128).**

9. Vide the aforementioned order dated 17.04.2015, the Ld. NGT also directed the State of Goa to seek a study from a premier institute regarding the possible adverse impact and changes in tidal water activity that would occur in the estuarine areas due to construction of pillars of the bridge in the riverine area. The State Government selected the National Institute of Ocean Technology (NIOT), Chennai as the agency to carry out the studies.

10. The work order of the proposed study clearly stated that the study would deal with the impact of both proposed pillars, their shoreline impact, sedimentation and report of the flow of the river with and without the proposed pillars to examine the long term effect of the

proposed bridge on the estuary. The NIOT submitted a preliminary report in 2015, and thereafter a final report dated 17.02.2016 to the Hon'ble Tribunal on 19.02.2016. However, the final report did not display that any effort was made to study the impact of the bridge construction with both pillars or pylons on the estuary in the long run.

A copy of the Work order dt. 24.06.2015 is enclosed as **Annexure A-19 (Pages 129-130)**

A copy of the interim report prepared in 2015 by NIOT is enclosed as **Annexure A-20** **(Pages 131-149)**

A copy of the final report submitted by the NIOT dated 17.02.2016 has been annexed herewith and marked as **Annexure A-21** **(Pages 150-182).**

11. Thereafter, affidavits were filed by the parties in response to the report of the NIOT, as well as to the issues raised in the application. Vide affidavit dated 30.03.2016, this Appellant filed a detailed response to the NIOT report pointing out several glaring inadequacies in the report vis-a-vis the Ld. Tribunal's order, plus issues not dealt with by the NIOT and inconsistencies in the findings of the study.

A copy of the affidavit dated 30.03.2016 filed by the Appellant in response to the report of the NIOT dated 17.02.2016 has been annexed hereto and marked as **Annexure A-22 (Pages 183-189)**

12. However, none of these issues were adjudicated upon by the Hon'ble NGT, as the matter was adjourned time and again largely by the respondents. The Appellant's counsel remained present at all the hearings of the matter which numbered nearly 24 during its pendency before the Western Zone bench.

13. After 2018, the NGT, Western Zone Bench was practically non-functional and all listings were automatically adjourned repeatedly to fresh dates. Subsequently, the Principal Bench of the Ld. NGT in Delhi began hearings of NGT (WZ) matters, with video conference arrangements at the NGT premises in Pune.

14. In these circumstances, the Appellant was informed a day prior by its AOR based in Pune that the O.A. No. 33/2015 was listed for hearing in Delhi on the following day, i.e., 22.01.2020. There was no prior notice or warning. The Appellant could not arrange for its counsel to be present either in Delhi or in Pune on the appointed day. The Appellant therefore instructed its AOR to seek a short adjournment and request for a fixed date for final hearing. However, the Ld. Tribunal rejected this request and proceeded to pass the

impugned order, disposing of the OA and vacating the interim status quo order, substantially on the basis that the NIOT had cleared the project and it was adequate that the conditions set out be adhered to.

15. The Appellant submits that denial of a hearing to the Appellant who had diligently prosecuted his case before the Ld. NGT is wholly in violation of the principles of natural justice and in violation of Section 19(1) of the NGT Act, 2010 besides the fact that the several violations of law raised by the Appellant in the OA were not at all addressed in the said order.

16. Due to the restrictions of the Covid pandemic, the Appellant was unable to approach this Hon'ble Court, but the Appellant filed a writ petition in the Hon'ble High Court of Bombay at Goa seeking a direction to the Hon'ble NGT to set aside the order dated 22.01.2020 on the grounds of denial of natural justice and to grant a hearing to the Appellant. The Hon'ble High Court disposed of the petition vide order dated 11.03.2021 wherein it granted liberty to the Appellant to approach the Ld. NGT with its request and expressed the hope that the Ld. NGT would consider the same, keeping in view this Hon'ble Court's orders on the approach courts and tribunals have to adopt during the pandemic.

A copy of the order of the Hon'ble High Court of Bombay at Goa dt. 11.03.2021 has been annexed hereto and marked as **Annexure A-23 (Pages 190-191)**

17. The Appellant filed Misc. Application No. 21/2021 (WZ) before the Ld. NGT seeking recall of the order dated 22.01.2020 which had disposed of the O.A No. 33/2015 (WZ) to enable the Appellant to advocate its case before the Ld. NGT. A copy of the Miscellaneous Application No. 21/2021 (WZ) filed by the Appellant before the Ld. NGT on 05.10.2021 has been annexed hereto and marked as **Annexure A-24 (Pages 192-204)**

18. However, the Miscellaneous Application No. 21/2021 (WZ) was disposed of by the Ld. NGT vide the second impugned order dated 17.01.2022 with another set of directions to be followed regarding the construction of the bridge, without correctly appreciating the Appellant's submissions. The Ld. NGT merely held in view of the grant of CRZ clearance and in principle approval under the Forest (Conservation) Act, 1980, no interference would be called for.

19. The Appellant herein filed Writ Petition No. 557/2022 [F] in the Hon'ble High Court of Bombay at Goa, assailing the order dated 17.01.2022 passed by the Hon'ble National Green Tribunal (Special Bench). However, vide order dated 29.04.2022, the Hon'ble High

Court permitted the Appellant herein to withdraw W.P. 557/2022 [F] with liberty to take recourse to the appropriate remedy in the matter.

A copy of the Writ Petition No. 557/2022 [F] filed by the Appellant in the Hon'ble High Court of Bombay at Goa and a copy of the order dated 29.04.2022 passed by the Hon'ble High Court of Bombay at Goa in Writ Petition No. 557/2022 [F] have been annexed in an accompanying application for permission to file additional documents.

20. Thus, the present Appeal under Section 22 of the NGT Act, 2010, is being filed, on the following amongst other grounds:

GROUNDS

A. Because the Ld. Tribunal disposed of the Original Application No. 33/2015 (WZ) without hearing the Appellant which is a complete violation of the principles of natural justice.

B. Because the Ld. NGT failed to carry out a merits review with regard to the issues raised by the Appellant in the Original Application. The Ld. Tribunal failed to discharge its statutory function as an expert adjudicatory body. This Hon'ble Court, in the **Hanuman Laxman Aroskar vs. Union of India (2019) 15 SCC 401** discussed about the failure of the Ld. National Green Tribunal as an adjudicatory body to carry out a merits review and held as follows:

> ***"136. The failure to consider materials on a vital issue and indeed the non-consideration of vital issues raises a substantial question of law leading to the invoking of the jurisdiction of this Court under Section 22 of the NGT Act, 2010. The failure of process in the present case has been compounded by the absence of a merits review by NGT.***
>
> ***….***
>
> ***160.*** *EAC, as an expert body abdicated its role and function by taking into account circumstances which were extraneous to the exercise of its power and failed to notice facets of the environment that were crucial to its decision making. The 2006 Notification postulates that normally, MoEFCC would accept the recommendation of EAC. This makes the role of EAC even more significant.* ***NGT is an adjudicatory body which is vested with appellate jurisdiction over the grant of an EC. NGT dealt with the submissions which were urged before it in essentially one paragraph. It failed to comprehend the true nature of its role and power under Section 16(h) and Section 20 of the NGT Act, 2010. In failing to carry out a merits review, NGT has not discharged an adjudicatory function which properly belongs to it.***
>
> ***…***
>
> ***164.*** *Before we part with the present case, we consider it appropriate to record a finding on the bona fides of the appellants before this Court. It was briefly urged by the respondents that the appellants have invoked the jurisdiction of this Court based on a personal agenda and consequently, the present appeal is liable to be dismissed. This argument cannot be accepted. We*

> *accept the submission of Ms Shenoy, learned counsel appearing on behalf of the appellants, that the non-consideration of vital issues by EAC has led to the invocation of the statutory remedy available to them under Section 22 of the NGT Act, 2010. Vague aspersions on the intention of public-spirited individuals does not constitute an adequate response to those interested in the protection of the environment. If a court comes to the finding that the appeal before it was lacking bona fides, it may issue directions which it thinks appropriate in that case.* ***In cases concerning environmental governance, it is a duty of courts to assess the case on its merits based on the materials present before it. Matters concerning environmental governance concern not just the living, but generations to come. The protection of the environment, as an essential facet of human development, ensures sustainable development for today and tomorrow."***
>
> (emphasis supplied)

C. Because the Ld. Tribunal disposed of the OA No. 33/2015 (WZ) solely on the basis of the NIOT report, which itself did not satisfy the terms of the study directed by the Hon'ble NGT. The final report of the NIOT indicated that the NIOT had considerably reduced the scope of the study since the report focused solely and exclusively on the impact of Construction of pier 6 on the spit on the southern side of the river mouth, and not on the impact of both the proposed piers to be constructed in the Tiracol river and their impact on the fragile estuarine area.

D. Because the final report submitted by the NIOT is a considerably watered-down version of the interim report submitted by the NIOT, which clearly indicated a study of both the pillars, as well as pointed out severe impacts of the spit on sedimentation and river flow. Some of the NIOTs comments as per its interim report are the following:

- The site is identified as seasonally varying wide sandy beaches with spit at the mouth of the river. The beaches were subject to heavy monsoon wave climate from the Arabian sea and are prone to severe erosion.
- The proposed suspension bridge will have two main columns into the bed, near shore, on either banks of the mouth.
- Longshore drift is a transport of sand parallel to the coast in the beaches, when waves attack them at oblique angle. Spits are bars formed by deposition of longshore drift by destabilised carrying capacity, when an opening inland or similar feature is encountered.
- Jayakumar et al, 2014, were already involved in long term observation of the spit dynamics at the site and have concluded that the spit is unstable by ensuing wave climate on the west coast.

E. Because even in its limited scope, the NIOT report completely fails to evaluate the actual impact of the construction and is an inadequate and incomplete study. The Appellant filed detailed objections to the final report submitted by the NIOT which have not been considered by the Ld. Tribunal.

F. Because the Ld. NGT vide the impugned order dated 22.01.2020 erroneously disposed of the OA No. 33/2015 (WZ) and merely directed that the observations and recommendations in the NIOT report be compiled with. The report makes three recommendations. One is to increase the elevation of the pile cap of pillar No. 6 by 1 m above high flood level to allow natural movement of sand. The second and third recommendations are to monitor morphological changes of the sand spit at the bridge pillar No. 6 at close interval to study seasonal and long-term variability and to monitor the shoreline changes up to 2 km on either side of pillar No. 6 both in the open coast as well as the estuary. These latter two recommendations appear to indicate that the NIOT itself is not confident of its own conclusions that there will be no significant changes from the construction of the pier on the spit. The Appellant also raised the issue that no purpose will be served by monitoring after the pier is constructed. The damage by then will have been done and will be irreversible. Hence it is necessary that a thorough EIA and proper study be completed before coming to conclusions that the pier can be constructed and thereafter asking for monitoring of its impact. It is for this reason that these recommendations are not acceptable to the Appellant since in its own limited survey of bridges worldwide, there is no such construction made on a dynamic spit (in fact a sand dune) which the NIOT itself admits, relying on studies, is fundamentally unstable.

G. Because the NIOT report has definitely not considered the "worst case" scenario that could impact the bridge itself and / or the local geomorphology. Pier 6 is located at least 30 metres from the Keri dune vegetation line or permanent shoreline. Considering this gap, the report ought to have considered the impact of a swollen river in spate which could isolate the pillar completely from the shore. This is because the spit is highly vulnerable to changes. In such an eventuality, the spit would get detached, the sand would be pushed into the channel, and the column itself would become an island. Google images of the same show periods during which the spit itself, in fact, entirely disappears.

True copies of Google Earth images of the Tiracol-Querim Beach spit have been annexed hereto and marked as **Annexure A-25** **(Pages 205-207).**

H. Because the NIOT report also concludes that the pillar would be on the sand dune itself and that the dune is 2 meters high (p.28). “Location of Pillar no. 6 is always in the shallow waters in the wake of spit or on dunes for most of the time.” (p.12) Constructions are not permitted on sand dunes, whether dynamic or stabilised, since this would interfere with the dune formation or movement or worse, destabilise and destroy it completely. If done, the ecological functions of such dunes would be extinguished, leading to ecosystem loss. The NIOT ought to have drawn attention to the proposed violation of the CRZ Notification, which was in fact subject matter of the application.

The other column (pillar 7) whose impact lies unexamined in the report, as per what the applicant has been able to ascertain, is to be located close to the cliff toe on the northern side of the river mouth. The Tiracol cliff is prone to erosion and periodic collapse as evidenced by the boulders strewn all over the near-shore zone, from the river mouth to the open sea face. In fact, there is no beach in the entire northern segment of the river estuary since the area is occupied mainly by boulders that have dislodged from the cliff. What could be the impact of drilling / piling at the toes of a vulnerable cliff is not indicated anywhere in the report. In fact, the presence of the unique formation of laterite boulders all across the northern river bank and their source has been completely ignored in the report.

This is a significant issue since at this point, the cliff projects itself into the estuary; there is a sort of protuberance. This means that the column (No. 7) will be at the mercy of tidal currents, but more importantly, also the sea waves which propagate into the estuary. Since this column will be located entirely in the water, and more so, at the mouth of the estuary, its effect on the estuarine circulation patterns has simply not been considered. Unfortunately, the NIOT has not provided any reason for the exclusion of the impact of pillar 7 in the report.

I. Because the Ld. Tribunal has failed to consider that the NIOT report does not provide a holistic picture of the incremental load of the proposed bridge construction on the Tiracol estuary, considering the latter's fragility. The erosion of the southern river mouth is well established in the report, especially in the interim report (p.11); the degeneration of the tetrapods on the southern extreme of the beach; the reduction of beach side by 10 m (p.28) are all mentioned. This data reinforces the averments made in the application, that this area is already subject to severe erosion, hence the use of tetrapods (which have failed) and the need for a shore-line wall. However, the cumulative impact of additional development in this area is simply not assessed. Either the pillar will contribute to further erosion or changes, or it will not. There is no categorical view expressed in the report one way or the other.

The NIOT report also does not report on the implications of widespread extraction of sand from the Tiracol estuary towards the hinterland and Kiran pani bridge by illegal sand miners which has continued despite ban orders of this Hon'ble Tribunal. Therefore, it does not make a realistic re-assessment of the supply of sediment actually delivered at the river mouth today when compared with the period when sand mining was sustainable.

J. Because the Ld. Tribunal erred in disposing of the OA No. 33/2015 merely on the observations and recommendations in the NIOT report, while ignoring the existing statutory violations, and incorrectly decided that there would be no adverse impacts from the construction of the project.

K. Because the Ld. Tribunal erred in relying solely on the NIOT report, which does not provide an accurate study of the impact of the proposed construction in the Tiracol Estuary. First, it only examines one pillar and leaves out the second completely. It is thus, an incomplete study. Further, the final report is a severely diluted version of the interim report of the NIOT which clearly noted severe environmental impacts.

L. Because by the impugned order, the Ld. Tribunal has not at all dealt with the main issues raised in the application, including the violation of the CRZ Notification, 2011, violation of the Forest (Conservation) Act, 1980 and the private interest demonstrated in this allegedly public project. The said order did not deal either with the facts stated in the OA nor did it consider the challenges to the bridge project laid out quite clearly in the OA on environmental and other public interest grounds.

M. Because the Hon'ble Tribunal has allowed the construction of the project on the basis that it is a public utility project- despite evidence on record to prove the contrary. It is completely unjustifiable for a private party to dictate the alignment of a supposedly public bridge to suit its own private agenda. Further to be involved and consulted in meetings with public authorities to propose the design of the bridge to the extent that the consultant hired for the design of the project is also that hired by the private party. The correspondence between GSIDC and Leading Hotels, meetings held, file notings, etc. make it abundantly clear that the beneficiary of the project is primarily the Golf Course Resort project. The villagers have, without their knowledge or concurrence, been used to provide an effective cover for the extravagant deployment of public funds to support a totally private enterprise. However, the Hon'ble Tribunal has completely failed to even consider this issue and has in fact, allowed the project to go ahead on grounds of being a public utility project. It is submitted that no project - public utility or otherwise can be allowed to be constructed in violation of statutory provisions of the CRZ Notification, 2011 and the Forest (Conservation) Act, 1980.

N. Because the Ld. NGT failed to consider that 'public utility' is being used as a cover for benefitting private entities. The residents of Tiracol village are only approximately 50 families. They reside as a community in one survey number of the village, the rest of the area being their cashew plantations. They presently use the ferry to cross the river or an existing bridge (which is at a distance of 3-4 km from their residence). They do desire a bridge for convenience of travel hence a bridge was proposed in the statutory Regional Plan precisely at the places where the ferry ramps exist. However, the bridge in question, with an estimated cost of the proposed bridge at Rs. 77

crores is clearly aimed at benefitting the 4 star luxury Golf Course. In fact, if the said bridge were, in fact, aimed at the benefit of the locals, it would work out to a staggering expenditure of more than Rs. 1 crore per family living in the Tiracol village.

O. Because the Ld. Tribunal failed to consider the Appellant’s contentions that the present alignment of the bridge and the proposed construction are in violation of the CRZ Notification, 2011 as the same falls within the NDZ. No development whatsoever can be permitted here. The Hon’ble Tribunal had prima facie found that the material on record indicated violations of the CRZ Notification, 2011 and directed status quo to be maintained on the same grounds. The NIOT report also clearly states that construction would be carried out on sand dunes. However, the issue of violation of the CRZ Notification, 2011 was not at all considered by the Hon’ble Tribunal at the time of disposal of the application.

P. Because the Ld. Tribunal failed to consider that no prior forest clearance had been obtained before the commencement of construction in the area, in violation of the Forest (Conservation) Act, 1980. Sy Nos. 14 and 15 of Tiracol Village have been identified as forest by the Thomas Committee Report. The in-principle forest clearance granted in 2015 has since expired, as it is only valid for a period of 5 years. The bridge cannot be constructed at present based on the same and fresh permission needs to be obtained from the MoEF&CC under the Forest (Conservation) Act, 1980.

Q. Because the impugned order is contrary to the requirements of Section 19(1) of the NGT Act, 2010. The Hon'ble Tribunal is restrained by law from passing orders on substantial environmental issues raised by litigants without hearing the parties. Any order passed in absence of such hearing of litigants is contrary to law, the NGT Act, 2010 and principles of natural justice to which the Ld. NGT must adhere. There are no exceptions to this provision of law in the NGT Act, 2010.

R. Because the Hon'ble Tribunal has passed the impugned order without hearing the Appellant, and also without examination and consideration of the material on record.

S. The Appellant craves leave to raise any additional grounds before this Hon'ble Court.

21. That the Appellant has not filed any other Appeal arising out of the judgement and final order dt. 22.01.2020 passed by the Ld. National Green Tribunal in O.A. 33/2015(WZ), or the judgment and final

order dated 17.01.2022 passed by the Ld. National Green Tribunal, Special Bench in Misc. Application No. 21/2021(WZ).

PRAYER

22. In the facts and circumstances stated above this Hon’ble Court may be pleased to:

    i) Admit and allow the present Civil Appeal and set aside the impugned judgment and final order dated 22.01.2020 passed by the Hon’ble National Green Tribunal, Principal Bench, New Delhi disposing of O.A. No. 33/2015(WZ), and the impugned judgement and final order dated 17.01.2022 passed by the Ld. National Green Tribunal, Special Bench in Misc. Application No. 21/2021(WZ) in O.A. No. 33/2015(WZ);

    ii) Pass such other order and/or orders as this Hon’ble Court deems fit and proper in the facts and circumstances of the present case.

PLACE: New Delhi

FILED ON: 30.05.2022

FILED BY

Srishti Agnihotri

SRISHTI AGNIHOTRI

ADVOCATE FOR THE APPELLANT

NOTARY
Janardhan S. Parshekar
Mapusa Bardez - Goa
Regd. No. 218/10
Expiry Date
29/01/2025
GOVT. OF GOA (INDIA)

IN THE SUPREME COURT OF INDIA
CIVIL APPELLATE JURISDICTION
CIVIL APPEAL NO. _______ OF 2022

IN THE MATTER OF:

THE GOA FOUNDATION ……APPELLANT

VERSUS

THE GOA STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY ……RESPONDENTS

AFFIDAVIT

I, Claude Alvares, s/o late Peter Alvares, aged 73 years, Secretary, Goa Foundation, G 8, St. Britto's Apartments, Feira Alta, Mapusa, Goa – 403507, do hereby affirm and state as under:

1. That I am the Secretary of the Petitioner organization. I am conversant with the facts and circumstances of the case and am authorized and competent to swear this affidavit.
2. That the contents of the para 1 to para 22 at pages 11 to 49 of this Civil Appeal, list of dates at page B to Q, and the accompanying Interlocutory Applications therein are true to the best of my knowledge, information and belief.
3. That I state that the Annexures are true and correct copies of the respective originals.
4. That I have read the contents of this affidavit and I state that the contents thereof are true and correct, no part of it is false and nothing material has been concealed therefrom.

DEPONENT

VERIFICATION

I, the above deponent, do hereby state on solemn affirmation that the contents of the paras 1 to 4 are true and correct to my knowledge and I believe the same to be true and that nothing material has been concealed therefrom.

Verified at Mapusa, Goa on this 27th day of May, 2022.

THE GOA FOUNDATION

DEPONENT

NOTARIAL NOTARIAL NOTARIAL

NOTARIAL NOTARIAL NOTARIAL

Janardhan S. Parshekar
Regd. No. 218/10
Expiry Date 29/01/2025

SOLEMNLY AFFIRMED AND VERIFIED
BEFORE ME BY Dr. Claude. Alvares
~~WHO IS IDENTIFIED BEFORE ME BY~~
WHOM I PERSONALLY KNOW
REGD. No 1676/22 DATED 27/05/2022

JANARDHAN S. PARSHEKAR
NOTARY AT MAPUSA, BARDEZ - GOA
STATE OF GOA, INDIA.

Annexure A-1

BEFORE THE NATIONAL GREEN TRIBUNAL
(WESTERN ZONE) BENCH, PUNE
APPEAL NO.31 OF 2014

CORAM:

Hon'ble Shri Justice V.R. Kingaonkar
(Judicial Member)
Hon'ble Dr. Ajay A.Deshpande
(Expert Member)

In the Matter of:

THE GOA FOUNDATION,
Through its Secretary,
G-8, St.Britto's Apts. ...**APPELLANT**
Feria Alta, Mapusa-Goa, 403505

Versus

1. **GOA COASTAL ZONE MANAGEMENT AUTHORITY**
   through its Member Secretary,
   3rd Floor, Dempo Towers,
   Patto, Panaji,Goa -403 001.

2. **GOA STATE INFRASTRUCTURE DEVELOPMENT CORPORATION,**
   through is Managing Director,
   EDC Building, Panaji, Goa 403 001.
   New Delhi-110001.

3. **The GOA STATE OF ENVIRONMENTAL IMPACT ASSESSMENT AUTHORITY,**
   Demo Towers, Patto, Panaji Goa 403 001.

4. **STATE of Goa through Chief Secretary,**
   Secretariat, Parvorim, Goa.

5. **The Chief Conservator of Forest,**
   Forest Department, Panaji-Goa.

.........**RESPONDENTS**

Counsel for Appellant(s):
Norma Alvares, a/w Supriya Dangare for Appellant.

Counsel for Respondent(s):

Mr.Dattaprasad Lawande for Respondent No.1.
Ms.F.M.Mesquita, For Respondent No.2.

Mrs. Shewta Busar, for Respondent No.3

Date: March 27th, 2015

JUDGMENT

1. By this order, preliminary objection raised in respect of limitation for filing of the appeal, is being considered and disposed of, in as much as , it is germen to further decision making, if we have to deal with the matter on merits. The Appellant has challenged impugned order of GCZMA (Respondent No.1) issued on 22nd Oct.,2013 and also urged for restoration of beach at Querim to its original condition by Respondent No.2, Viz.Goa State Infrastructure Development Corporation.

2. Undisputedly, there is river at Tiracoal,Goa. There is embankment of river on one side and opposite to other side, there is beach of Keri, which is abutting inward part of Sea. In between Keri beach, Tiracoal River beach and Keri water flows in confluence.

3. There is no dispute about the fact that the village Tiracoal is at a short distance from border of State of Maharashtra, particularly Vengurla Taluka (District Sindhudurg). Respondent No.2 is dealing in construction activities and development within the State of Goa. Respondent No.2 decided to construct a bridge across

Tiracoal and Keri, costing about Rs.77 Crores. Respondent No.2, in fact, has constructed a small part of the bridge towards Tiracoal river side. However, no work has been yet commenced from Keri side. The work done from Tiracoal village side is also up to about 7 to10 % within the estuary.

4. Briefly stated, the Appellant’s case is that, the work of bridge in question falls within the CRZ-I as per the approved Coastal Zone Management Plan and CRZ Notification. Respondent No.2 has not obtained approval of the MoEF as required under the CRZ notification, 2011. The permission granted by Respondent No.1 for construction work is illegal, because the construction work falls within the CRZ-I area and in violation of procedure laid down in CRZ Notification. The bridge on the southern side is being constructed in the No Development Zone (NDZ) zone, immediately on the eastern side of Querim beach which is demarcated at CRZ-I, as per the approved CZMP and CRZ notification. The bridge is being constructed without prescribed study of Environmental impact and that too, in the No Development Zone (NDZ) Querim across the river which is eco sensitive area. The northern side access in Tiracoal village is Forest land, for which there is no F.C. diversion order sought from Forest Conservative authority as per the Forest Conservation Act, 1980.

5. The Appellant alleges that, copies of the minutes of the GCZMA and NOC dated 22-10-2013 were obtained by him on 11-8-2014. The Appellant further alleges that, when he received knowledge of the construction on 13-7-2014, he filed complaint to the GCZMA and thereafter filed Application under RTI. The Appellant further alleges that, though the Application is not strictly within the time, set out in the NGT Act, it is still within time, from the knowledge of the work, which had commenced at the spot. So, the Appellant has sought condonation of delay in filing of the appeal.

6. Respondent No.1 (GCZMA) and Respondent No.2 raised preliminary objections, on the ground that, the appeal is barred by limitation and is liable to be dismissed, because, it is filed after 30 days and therefore, does not come within the ambit of Section 16 of NGT Act.

7. Before considering the issue of limitation, we shall first have a look at approved plan of Goa State Coastal Zone Management (Annexure A). The plan of GCZMA dated October 22nd , 1996, reveals that, general conditions added in " **Clause-A**" to the extent, they are relevant and thus:

> (i) xxxx
>
> (ii) No activity that has been declared as prohibited under Section 2 of CRZ Notification, 1991 shall be carried out within the Coastal Regulation Zone.
>
> (ii) The permissible activities shall be regulated in accordance with Section 3 and follow the norms for regulation as indicated in Section 6(2) of CRZ Notification,1991 as amended in 1994.

8. The Appellant made a complaint dated July 14th, 2014 to GCZMA which shows that, on July 13th 2014, the construction of bridge across the Tiracoal River was noticed by him. He, also stated in the complaint that, no permission can be given for such development in NDZ, thus, the Appellant was well aware that the area was within NDZ and the work was being done in such area before July 13th, 2014.

9. The documents placed on record, prima-facie show that, there are trees and there may be encroachment on forest on Tiracoal side. In other words, there could be requirement to obtain permission from

Forest Conservation Authority if the project is to be completed. What the Appellant is challenging in the present appeal is, however, CRZ permission dated 22nd Oct.2013. The impugned permission of the CRZ shows that, the GSIDC will be required to obtain all other permissions/approval, for the construction of the bridge, as required by law. In other words, without obtaining permissions of the competent authorities, the CRZ clearance cannot be effected. So also, reclamation of river in Goa is banned and therefore, Captain of Port will have to consider the proposal of NOC.

10. It is argued on behalf of the Appellant that, first date of knowledge shall be the date where from the knowledge of illegal order be considered and therefore, it is well within time. According to the Learned Advocate Norma Alvares, the Appellant came to know, only on 13th June 2014, that the construction was started without approval of the competent authority, and therefore, the complaint was lodged on next day. Thus, July 14th 2014 is the date which triggered limitation and as such, the appeal is within limitation, since it is filed on October 13th 2014. From the record, it appears that the Appellant submitted an Application of NOC issued by GCZMA, NOC issued by Captain of Port and Site Inspection under the RTI Act, 2005. This Application was submitted on August 6th 2014. The applicant was directed to collect the copies on payment of required fees. It appears that, all the information was received by him on 11-8-2014, after collecting the copies. Obviously, the Appellant came to know about the impugned order on 11-8-2014, even assuming that, the copy was received somewhat late, though he came to know about earlier, yet date of knowledge of the Appellant is, somewhere in midst of August,2014. Filing of the appeal in the 2nd week of

October, 2014, i.e. about one year after the knowledge, is outside the limitation, provided Under Section 16 of the NGT Act.

11. According to Advocate Norma Alvares, technical issue of limitation should not detain the Tribunal from considering of the appeal, which can be termed as an application, because the Appellant has also sought restoration of the land at the beach of Querim to its original condition, which is a relief, that falls within the provision of Section 14(1) r/w Section 15 & 18 of NGT Act. The contentions of Learned Advocate Norma Alvares is that, the limitation of six (6) months is applicable in case of Application filed U/Sc.14(1) r/w Section 14(3) of NGT Act from date of knowledge, even if the present Application is considered as an application, instead of an appeal. So, it is argued that the application/appeal is not barred by limitation.

12. At this juncture, it may be noted that the Appellant is well aware of the fact that, the appeal is not well within the time, prescribed under the NGT Act. For such a reason, in Para-27 of the Appeal-memo, it is stated as below.

> “ Though the Application is therefore strictly not within the time set out in the NGT Act, it is still within the time stipulated once the Appellant came to know. Therefore, Appellant seeks condontion of delay in filing this appeal.”

The Appellant mainly seeks setting aside, the order of GCZMA passed on October 22nd 2013. Therefore, the main purpose of the appeal is to challenge the said order. The impugned order, in fact, came within knowledge of the Appellant when copies of the relevant communication was received by him after the Application filed under

R.T.I. Obviously, the Appellant ought to have made it clear, as to when did he file Application under the R.T.I. He states that, he filed such Application on 25th Sept.2014 after conducting due research. He further states that, he has pleaded for condonation of delay, if any, in the appeal. The information received by him, in any case, was said to be after said application. The record shows that the documents were furnished to him on 11-8-2014. The GCZMA issued NOC dated 22-10-2013. The GCZMA has filed affidavit that minutes of GCZMA had been up loaded on the website, in the month of November, 2013 itself.

13. So far as the starting point of limitation for the purpose of appeal is concerned, U/Sc.16 of NGT Act, 2010, the limitation triggers when the Appellant can be attributed knowledge in relation to the impugned order, at first time. The Appellant has come up with a case that for the first time the activity of the construction was noted on 19-8-2014.He received reply from GSPCB on 28th Aug.2014. He received reply dated 16th Sept.2014 from GSIDC.

Chief bone of contention advanced by learned Advocate General appearing for the State of Goa is that, the Appellant had knowledge of the project in question since very beginning when the issue of Tiracoal Bridge and other bridges were discussed during a meeting held on 2-1-2012 between the Hon'ble Chief Minister and other officials. He pointed out that, the construction of Tiracoal Bridge finds mention in the Chief Minister's speech of May of 2012. Thus, the project was in contemplation of State of Goa since 2012 and this was known fact to the Appellant and all the concerned members of nearby area. The Appellant, however, submitted that in the Writ Petition filed before Hon'ble

High Court of Bombay at Goa (W.P. No.362 of 2010, Civil Application No.155 of 2010) was filed in respect of similar matter. It is pointed out that, in his additional affidavit dated 7th Oct.2010 the Executive Engineer (PWD) stated that " The work of the construction of that bridge would not come be recommenced until the CRZ clearance is obtained from the Ministry of Environment & Forest (MOEF)." The Hon'ble High Court accepted the said statement. On the basis of such statement the Hon'ble High Court directed that, the construction of said bridge shall not be recommenced until the CRZ clearance is obtained from the MOEF, and for a period of 7 days thereafter. That was altogether different matter pertaining to Benaulim-Sinquetim in South Goa.

14. The Affidavit of Member Secretary of GCZMA shows that, permission of GCZMA was granted to the project of bridge in question I.e Bridge between river Tiracol and Keri as per communication dated 22nd May, 2011. His affidavit shows that, the proposed bridge from Keri to Tiracol is of 13 Mtrs and comprises of 10 (Ten) Piers. Out of them, 2(Two) Piers will be erected in the NDZ area towards Keri side and 2 (Two) Piers will be erected within in the NDZ area towards Tiracol side.The total area of land occupied on Keri side will be only of 21 Sq.Mtrs under the Piers and rest of the bridge will be suspended in the air above NDZ area, which would not involve any environmental degradation at all.

His affidavit further purports to show that, the construction of bridge is exempted under the EIA Notification from procedure to seek permission. Moreover, the CRZ Notification gives authority to the GCZMA and the Notification itself exempts the construction activities of the bridge from the CRZ Clearance.

15. The "exemption" is applicable to project in question, if it is so looked from the stand point of view of CRZ Notification. The CRZ Notification is issued with an object to regulate certain activities in the area between HTL & LTL and to protect the interest of fishermen, Sea water, islands, to conserve and protect the coastal status so on and so forth. The word "To Regulate" implies power to grant or reject any permission sought for. The regularity authority prima-facie has the powers to deny the permission if the Application does not satisfy parameters required for a particular regulations, in the present case CRZ norms or the EIA norms. It has also legal authority to grant such permission, if the norms are fulfilled. The very fact that MOEF referred the matter to the CRZ authority in similar case, in spite of directions of the Hon'ble High Court to consider the application, is indicative of the fact that the authority already with the GCZMA. The expression "Regulate" is clear from the dectums in "***Maharashtra State Board of Secondary and Higher Secondary Education Vs. Paritosh Bhupesh kumar Sheth, (1984) 4 Supreme Court Cases 27, K.Ramanathan Vs. State of Tamilnadu & Another, (1985) 2 Supreme Court Cases 116, Asa Ram Vs. District Board, AIR 1959 Supreme Court 480***.

16. A question may arise, as to why we are inclined to discuss the above legal position. This is because the Appellant has come up with a case that, the respondent No.2 ought to have approach MOEF and mere CRZ Clearance could not be sufficient. According to the Appellant, the Respondent No.2 by-passed the important stages of scoping, public consultation, Screening and appraisal, which are essential for decision making by the MOEF. The Appellant alleges that, the Respondent No.2 purposefully avoided the public hearing, in order to deprive the Appellant and public members to raise objections to the project, in order to avoid grievances by way of conducting public hearing. This being the main thrust of the contention in the appeal, we have taken prima facie review of the CRZ notification, in order to show that there may not be such ill-intention of the respondent No.2 to avoid public hearing while applying to the CRZ authority, for grant of permission to seek Clearance for the project of the bridge in question. The Appellant had knowledge that construction activities was going on when he visited the site, allegedly on 13th July, 2014. Thirty (30) days period from 13-7-2014 elapsed on 13th August, 2014. Even assuming that, the Appellant received knowledge of the EC after getting the relevant documents on 11-8-2014, yet, the appeal filed on 13th Oct.2014, is surely after the period of 30 days, from the date of such knowledge. The averment made in Para-14 of the appeal-memo goes to show that, the copy of the minutes of GCZMA meeting held on 15-10-2013 were down loaded from the web site of the authority as Annexure-I.

17. Reply to the complaint filed by the Appellant was received from the GCZMA on 26-8-2014, merely annexing approval. Even considering all these documents, the appeal filed on 10th Oct.2014, is barred by limitation, because it is filed, after 30 days, as prescribed period under Section 16 of NGT Act, 2010.

18. There can be no doubt that, the delay can be condoned as provided under Section 16, if "Sufficient Cause" is shown by the Appellant and the extension of such period can be up to 60 days further." Thus, there is outer limit of 90 days provided by Section 16 of NGT Act, for filing of the appeal. Unfortunately, in the present appeal, the Appellant has not filed any separate

Application for delay condonation. The Appellant has not given any "Sufficient cause" for the delay. The delay is not explained at all. The Appellant has not shown as to why the delay is caused after the initial prescribed period of thirty (30) days and why explanation of such delay under proviso appended to Section 16, is required to be granted, as an exemption or by way of special reason. In the absence of such special case made out, the Tribunal cannot assume that, there exited some "Special Reasons " "Special cause" for the Appellant to file appeal after a period of 30 days, which is prescribed under Section 16 of the NGT Act,2010.

19. By now, it is well settled that, the period of limitation cannot be extended beyond the prescribed period under special enactment. The NGT Act is special enactment and therefore, the period of limitation prescribed under a particular provision, cannot be extended by applying general provisions of the other enactment. In case of "Medha Patkar Vs. MOEF & Ors " (Appeal No.1 of 2013) Hon'ble Principal Bench of NGT,Delhi held that the period of limitation is not extendable beyond the period provided under Section 16 of the NGT Act,2010.

20. So also, in *Raza Ahmad Vs. State of Chhattisgarh & Ors*., it is held that:

> "The *Tribunal must adopt a pragmatic and practical approach that would also be in consonance with the provisions of the Act providing limitation. Firstly, the limitation would never begin to run and no act would determine when such limitation would stop running as anyone of the stakeholders may not satisfy or comply with all its obligations prescribed under the Act. To conclude that it is only when all the stakeholders had completed in entirety their respective obligations under the respective provisions, read with the notification of 2006, then alone*

> *the period of limitation shall begin to run, would be an interpretation which will frustrate the very object of the Act and would also cause serious prejudice to all concerned. Firstly, the completely frustrates the purpose of prescription of limitation. Secondly, a project proponent who has obtained environmental clearance and thereafter spent crores of rupees on establishment and operation of the project, would be exposed to uncertainty, dander of unnecessary litigation and even the possibility of jeopardizing the interest of his project after years have lapsed. This cannot be the intent of law.* "

From the above observations, it is quite clear that, the limitation available under Section 16 (1) cannot be extended, nor any sufficient cause is shown to grant such extension and therefore, appeal is barred by limitation. Therefore, objection raised by the respondents is legal and valid.

21. Alternative contentions of Learned Advocate Norma Alvares is that, the Application also seeks restoration of land and therefore, it would come within the ambit of Section 14 (1) of the NGT Act, 2010. We find it difficult to contingent the argument in as much as basically the subject matter is appeal against CRZ Clearance granted to the Respondent No.2 by GCZMA authority. The Appellant did not raise any "Substantial question" relating to enforcement of any legal right relating to environment as contemplated under Sub Section (1) of Section 14 in the appeal-memo. The wording of Section 14 of the NGT Act clearly indicate that, the Tribunal shall have jurisdiction over all civil cases, where substantial question relating to environment is involved. In the present case, assuming that this Tribunal has jurisdiction to decide the civil cases, where the dispute arises, in regard to implementation of enactment specified in Schedule-I, then also the period of limitation is of six (6) months from the date on which the cause of action for such dispute first arose. The distinguishing features of Section 14 (3) and Section 16 (1)(a)(j) may be understood with due reference to the words implied by the Legislature, while drafting both these provisions. It is pertinent to note that, Section 16 of the NGT Act, deals with the appellate jurisdiction of the Tribunal, especially that provides for period of Thirty (30) days from the date on which the order or decision or direction or determination is communicated to him, to prefer an appeal. Whereas, Section 14(3) states that, no Application for adjudication of dispute under this section shall be entertained by the Tribunal, unless it is made within the period of six (6) months from the date on which the cause of action for such dispute first arose. In other words, the Legislature intended to make difference between expression "Cause of action" for such dispute and the date on which the order or decision was communicated. Secondly, the dispute can be filed only when it relates to a substantial question in respect of enforcement of any "Legal rights relating to environment". Whereas an appeal would lie against an order or directions or determination of any question. In the appeal-memo, the Appellant has not described that, he raises any particular dispute relating to environment of legal right, and the Application falls within the ambit of Section 14(1) and therefore, the limitation under Section 14(3) of the NGT Act is applicable. The simple case of the applicant is that, the impugned order passed by the GCZMA is illegal, incorrect and improper. The Appellant alleges that, the decision making authority is MOEF and not the GCZMA and therefore, the impugned order is illegal, which is therefore impugned on ground of basic legality. It is for such reasons, including violations of EIA notification and conditions of CRZ that the impugned work of the bridge in question is under challenge in the appeal. As stated before, even if, the response to the RTI Application is considered as triggering point and then also the appeal under Section 16 of the NGT Act is barred by limitation.

22. In the result, the preliminary objection is upheld and hence the appeal is held as barred by limitation. The appeal is accordingly dismissed. No costs.

23. Considering the fact that *prima facie* there appears certain material, which indicate violation of CRZ, we grant liberty to the Applicant to file Application or any petition as may be permissible under the Law to challenge the impugned project/ CRZ order non-compliance and for that two (2) weeks the Status quo is continued, as per the statement made by the learned Advocate General.

……………………………………………., **JM**
(Justice V. R. Kingaonkar)

……………………………………………., **EM**
(Dr.Ajay A. Deshpande)

Date March 27th, 2015.

NGT

Annexure A-2

BEFORE THE NATIONAL GREEN TRIBUNAL
AT PUNE

APPLICATION NO. 33 OF 2015

Between

THE GOA FOUNDATION ... ... **..APPLICANT**

And

GOA STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY & ORS **......RESPONDENTS**

Compilation – I

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Place: Mapusa

Date: 6.4.2015

Advocate for applicant

BEFORE THE NATIONAL GREEN TRIBUNAL
AT PUNE

APPLICATION NO. 33 OF 2015
(under Section 14 and 15 of the
National Green Tribunal Act 2010)

BETWEEN:

THE GOA FOUNDATION
through its Secretary,
G-8, St Britto's Apts,
Feira Alta, Mapusa - Goa – 403505 ... ...**APPLICANT**

And

1. **GOA STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY,**
through its Secretary,
c/o Goa Pollution Control Board,
Dempo Towers,
Patto, Panaji, Goa 403 001.

2. **GOA COASTAL ZONE MANAGEMENT AUTHORITY**
through its Member Secretary,
3rd Floor, Dempo Towers,
Patto, Panaji, Goa 403 001.

3. **GOA STATE INFRASTRUCTURE DEVELOPMENT CORPORATION**
through its Managing Director,
EDC Bldg., Panaji, Goa 403001

4. **STATE OF GOA,**
through its Chief Secretary,
c/o Secretariat,
Porvorim, Goa 403 521.

5. **PRINCIPAL CHIEF CONSERVATOR OF FORESTS,**
Dept. Of Forests, Swami Vivekananda Road,
Panaji, Goa 403 001.

6. **MINISTRY OF ENVIRONMENT, FORESTS & CC,**
through its Secretary, with address at:
Indira Paryavaran Bhavan, Jor Bagh Rd,
New Delhi 110 003. ......**RESPONDENTS**

(Above are registered addresses of parties)

THIS APPLICATION MOST RESPECTFULLY SHOWETH:-

1. The address of the Applicant's counsel is given below for the service of notices of this Application.
2. The addresses of the Respondents are given above for the service of notices of this Application.
3. This application deals with a substantial question relating to environment. Specifically, it concerns the irreversible and permanent environmental damage being done to the Querim beach which is declared as CRZ I in the approved CZMP of Goa, by the construction of a bridge which does not have the approval of the competent authority, the MOEF/SEIAA in the present instance, and whose construction is being done in violation of CRZ norms. The proposed bridge will in effect destroy the beach completely, which activity is not permitted under the CRZ notification.
4. Further, the provisions of the CRZ notification concerning the approval of such projects have been violated. The applicants are fearful that if construction is continued, necessary interventions that require to be done to protect the ecology during construction and thereafter and which would have emerged through proper EIA, etc., may never be imposed on the project, thus inviting permanent damage to the CRZ area and estuary.
5. Northern side access of the bridge is in Tiracol village, in forested land, for which no diversion order under FCA, 1980, has been obtained. Despite this, work has commenced on the project.
6. Work on the Querim side of the bridge is at primary stage and there is a stay order on several portions of the bridge in force, pursuant to the orders of this Hon'ble Tribunal, before whom applicant had filed an appeal (No.31/2014) against the GCZMA for permitting construction of the bridge solely based on its NOC. The appeal was dismissed by this Hon'ble Tribunal by its order dated 27.3.2015 on ground of limitation. However, this Hon'ble Tribunal gave opportunity to the applicant to file an application within two weeks in view of prima facie CRZ violation. Hence this application. Copy of

the order of this Hon'ble Tribunal dated 27.3.2015 dismissing the appeal on ground of limitation and earlier interim order dated 22.12.2014, staying certain works in connection with construction of the bridge are annexed to this application as **Annexure A colly**.

ISSUES BEFORE THE HON'BLE TRIBUNAL

7. The primary complaint in this application - based on the precautionary principle – pertains to the construction of a Rs.77 crore bridge (as per GSIDC website) in the no-development zone of Querim village where the NDZ is 500 metres from the HTL due to the natural beauty of this stretch of beach. The entire beach of Querim is declared CRZ I in the Goa CZMP. The Tiracol river flows between Querim village and Tiracol village as it enters the Arabian sea. The bridge is being constructed across the Tiracol river in the estuarine area. A project of this size, located in the CRZ I on one side, would also have to be subjected to EIA and EMP. Such studies have not been carried out, even though required under the CRZ notification. The bridge is thus being constructed without taking into effect adverse consequences on the estuary and fishing area and thus also violates the Precautionary Principle. Applicant is apprehensive that the construction would eliminate/destroy the Querim beach and also damage the estuary of the Tiracol river which is extremely narrow and also fishing ground. Hence substantial questions of environment are involved which the Tribunal must consider.

8. The NDZ in CRZ area and CRZ generally is not a zone for loading unnecessary construction or development. The CRZ notification has been issued to prohibit and restrict development in the interest of conservation of coastal ecology, except what may be necessary and cannot be constructed elsewhere. In any event, SEIAA may not be able to grant approval to construct a bridge at this spot due to its status as a CRZ I beach and if the proposal entails physical destruction of the beach itself.

9. Stay by NGT on further new and fresh digging of the area on the Querim beach side is in force. Stay on Tiracol side of the bridge is in force due to party not having necessary approval under the provisions of the Forest Conservation Act, 1980.

BRIEF FACTS

10. Applicant's Director was invited by people of the village of Tiracol in connection with construction of a golf course in the said village. The visit was conducted on 13.7.2014. At the ferry crossing (which connects the Querim village in the south – across the river – with Tiracol village in the north), Director of the Applicant noticed drilling of bores in the NDZ of the beach for what seemed to be a major construction. There was no person at the site to make inquiry. There was also no board at the site displaying details of construction approvals, which is a legal requirement in Goa. However, plaque at the site announced that project had been inaugurated by the CM and MLAs.

11. The southern bridge approach is the beach section of Querim CRZ which has been declared CRZ I in the approved Goa Coastal Zone Management Plan 1996 because of its great natural beauty. The bridge is being constructed in Sy. Nos. 110, 111 and 112 of the village all of which fall within the 500m zone from the HTL of the sea. Sy. No. 110 also falls within 100m of the riverbank. Copy of the approved CZMP is at **Annexure B colly**. Copy of official plan showing 500 metre line on Querim beach is at **Annexure B colly**. Map of Goa State indicating places along the Tiracol river that are named in the CZMP as CRZ is also part of **Annexure B colly.**

12. Photograph of the Querim beach taken in 1991 is at **Annexure C**. The beach has been populated with casuarinas trees to control erosion. Tetrapod stones and retaining fencing have also now been placed which indicates major erosion is taking place and area is dynamic and unstable. The tetrapods have been dumped without any scientific assessment and the arrangement is in a state of collapse, as the pictures taken in 2014, and annexed at **Annexure D**

to this application indicate. There is an almost total absence of settlement on the beach, except for an old temple. Because of its untouched nature and beauty, the beach has been a popular site for picnickers.

13. The Tiracol residents (approximately 50 families) across the river use the ferry or a new bridge (which takes an extra 3-4 km only) to cross over to Querim in mainland Goa. The estimated cost of the bridge (Rs. 77 crores) works out to a staggering expenditure of more than Rs.1 crore per family living on the Tiracol side, if the bridge were actually meant for them. **Annexure E** is a map which shows the location of existing bridge, recently constructed.

14. Immediately after noticing the construction activity on the Querim beach on 13.7.2014, Applicant filed complaint dated 14.7.2014 with the Resp.No.2. Copy of the complaint is at **Annexure F**. Applicant thereafter made inquiry and found that the bridge was essentially for the benefit of the company erecting a golf course on the northern (Tiracol) side of the river. In fact, the proposed bridge is not only shown in the project design of the golf course resort, but the company's EIA Form I application clearly sets out the company's involvement in the construction of the bridge. This is proof, if any is required, that the bridge, though being constructed with public money, is for a private party's project. Copy of the golf resort's plans showing the bridge is annexed at **Annexure G**. At **Annexure H** is copy of relevant pages of the EIA Form I submitted by the company.

15. The area where the bridge terminates on the northern side is in identified forest zone, namely Sy.Nos.14 and 15 of Tiracol village, for which no prior approval under the FCA, 1980, has been obtained. Report of the North Goa Forest committee is annexed at **Annexure I**. MOEF circular dated 21.3.2011 is therefore violated, since no work may commence on any project in the non-forest area if approval for diversion of forest in the forested area of the project is not yet obtained. Copy of MOEF forest circular is at **Annexure I**. Ⓙ

16. Apart from the fact that the construction of the bridge at the present location would completely mar the beauty of Querim beach and destroy its existence completely, the environmental and ecological consequences would be more severe, since the proposed construction would also impact on the estuary itself. Construction of the bridge involves two piers in the NDZ of Querim beach and two piers in the NDZ of the Tiracol CRZ. On the Querim side, it appears that the piers will be located on the spit formation of the beach. Applicant is annexing at **Annexure K colly** Google maps from the years 2006, 2010 and 2014 which show the area where the proposed bridge is to be constructed is a spit which is nothing but a dynamic land-sea area, changing morphologically over the years. No piers ought to be placed on such a spit as disturbance of the spit would impact the narrow estuary. The ecological consequences of situating major construction activity in a delicate, dynamic area ought to have been well considered, and in advance, before taking such a major step which could disastrously impact the CRZ.

17. Applicant visited the office of the GCZMA for inspection of the relevant file dealing with the bridge project on 7.8.2014. From the Applicant's enquiries under the RTI and from inspection of files in the GCZMA office, it does not appear that environment impact studies were submitted by the project proponent or were even called for by the Resp No. 2. A cursory site inspection by one member of the GCZMA, resulting in a 2-page site inspection report and a presentation by the project proponent is all the examination that took place before the GCZMA granted NOC for the project. Applicant submits that such a huge project ought not to be permitted and certainly not in the NDZ of Querim beach without appropriate environmental studies, and appropriate approvals, if indeed these can be granted, and the activity is permissible. Environmental impact assessment is required to be done under the CRZ notification. MOEF/SEIAA approval is also required. This, to the best knowledge of the applicant, has not been obtained

Without such approval, commencement of project work is clearly illegal.

18. Applicant states that the construction of the bridge has commenced on the basis of an NOC dated 22.10.2013 issued by the Member Secretary, GCZMA, pursuant to decision taken by the GCZMA at its meeting held on 15.10.2013. The NOC was based on site inspection report dated 25.9.2013 of one Dhume, member of the GCZMA. These documents were obtained by the Applicant from the GCZMA in August 2014 under the RTI Act. GCZMA NOC dated 22.10.2013 for the project, GCZMA minutes dated 15.10.2013 requiring it to procure other permissions prior to construction and Site Inspection report dated 25.9.2013 stating that the location of the bridge is to be on the HTL are annexed to this application as **Annexure L colly**.

19. There is also an NOC dated 28/08/2013 from the Captain of Ports, (obtained by Applicant from the GCZMA) which is conditional and which requires the party to carry out two crucial sets of environmental studies ***prior to obtaining final NOC and commencing construction***. However, after this applicant filed Appeal No. 31/2014, pressure was exerted on the COP to withdraw the conditions imposed. The letters issued by the COP are at **Annexure M colly**.

20. Subsequently, the applicant filed RTI requests for copies of additional documents from the GSIDC on 14.8.2014. Reply dated 16.9.2014 with documents from GSIDC is at **Annexure N colly**. As can be seen from the reply of the GSIDC, the requisite environmental studies have not been done and no copy is therefore available and there is no SEIAA approval.

21. The State Pollution Control Board has stated that it has no concern with the project. Till date, there is no construction license issued for the project by any authority. Construction of the bridge in such circumstances is therefore to be halted as the procedures laid down for permissible activities within the CRZ have simply been ignored altogether.

Grounds:

22. The construction of the bridge at its present location will undoubtedly damage the natural environment and the Querim beach irreversibly. It will also interfere with the estuary and its ecology. Population of Tiracol village includes many fisherfolk whose main livelihood is fishing and who fish in the estuary.

23. Work has commenced despite the fact that forest clearance has not been obtained. MOEF circular dated 21.3.2011 has been violated.

24. There is no EIA carried out as required by the CRZ notification. Captain of Ports request for EIA studies was withdrawn after pressure was exerted on the office by the Goa government. At the present, the beach is under threat of severe erosion. In such circumstances, comprehensive EIA would be required.

25. This deficiency would have been duly pointed out, had the decision of the GCZMA been communicated to the MOEF (Resp.No.3) and now the Respondent No.1 for approval which is required by the provisions of the CRZ notification. Without MOEF/SEIAA approval, construction of bridge work cannot commence. The MOEF/SEIAA would have also been duty bound to draw the attention of the GCZMA to the fact that CZMP as per the CRZ Notification 2011 has not been prepared or approved. CZMP as per CRZ Notification, 2011 would also be based on hazard line, which must be identified prior to approval of CZMP. This is important for this area, since Querim beach is subjected to serious erosion.

26. GCZMA has approved the project merely on the basis of the report of one engineer who has opined on a 2-page proforma that there will be no damage. However, large number of trees on the beach have now been cut.

27. The huge bridge is not serving any community need or need of local inhabitants but is mainly for the needs of a 5-star project of a private party.

28. The GCZMA (headed at the relevant time by the Chief Secretary, Goa) has bowed to political pressure and granted NOC without application of mind. However, GCZMA NOC must be followed by SEIAA approval which has not been obtained.

29. Additionally raised in the application – and calling for interference of this Tribunal – is the continuing grant of approvals and NOC for projects by the Respondent No.2 in the CRZ of Goa without approval of the CZMP, as required by the CRZ Notification 2011. The State of Goa was given 24 months time by the CRZ notification of 6.1.2011 to prepare the CZMP and get it approved. It has defaulted in its obligation under the notification. Without an approved CZMP all manner of projects are being approved without consideration of zoning as CRZ I, II or III and without consideration of "Hazards Line" which is also required to be demarcated in view of climate change and sea level rise which issues the Central govt is seized of. Hence applicant pleads for a general restraint against the Respondent No.2 from granting any approvals, such as has been done in the case of the impugned bridge project and other similar ventures, until the CZMP is prepared and approved.

Limitation:

30. This application is filed in time. As per the order of this Hon'ble Tribunal dated 27.3.2015, two weeks' time was granted for filing of this application in the said order. Therefore the application is filed in time.

31. The Applicant is therefore approaching this Hon'ble Tribunal for the following reliefs:

Prayers:

a. Direct the removal of the construction works of Tiracol bridge partly being erected on Querim beach.

b. Direct the Respondent Nos.1-4 to restore the beach of Querim to its original condition.

c. Award appropriate costs for damage to the Querim beach and for its restoration.

d. Pass such and further orders as this Hon'ble Tribunal may deem fit to grant.

Interim reliefs:

e. Pending hearing of this application, stay the construction of the impugned bridge on Querim beach, North Goa.

f. Pending hearing of this application, restrain the Respondents from construction of the impugned bridge on Tiracol forested land (Sy. Nos 14 & 15).

For the above, the applicants are truly grateful.

April ______2015

Applicant Organisation

Ms Supriya Dangare
Flat No.4, Luvkush Building,
Bharat Kunj, Vasahat 1,
Opp. New Karnataka HS.,
Erandavane, Pune
Email: advocatedangare@yahoc co.in
Phone: 9923106109

Ms Norma Alvares
G-8, St Britto's Apts.,
Feira Alta,
Mapusa 403507 Goa.
email: cnalvares@gmail.com
Phone: 9552995184

VERIFICATION

Verified on this the 6th day of April 2015 that the contents of paras 1-3, 5, 6, 7(p), 9-14, `15(p), 16(p), 17(p), 18-20, 21(p) and 30 of the accompanying appeal are in the nature of facts which are true to my own knowledge and belief and the contents of paras 4, 7(p), 8, 15(p), 16(p), 17(p), 21(p), 22-29 and 31 are my submissions, made on legal advice which I believe to be true and correct. No part of it is false and nothing material has been concealed therefrom.

Mapusa, Goa 6.4.2015

DEPONENT

BEFORE THE NATIONAL GREEN TRIBUNAL AT PUNE

APPLICATION NO. ____OF 2015

Between

THE GOA FOUNDATION ... ...**APPLICANT**

And

GOA STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY & ORS ......**RESPONDENTS**

AFFIDAVIT

I, Dr Claude Alvares, Secretary, applicant abovenamed, aged about 66 years, do hereby solemnly affirm and declare as under:

1. That I am Secretary of the Applicant organisation in the abovementioned Application. I am fully conversant with the facts of the case as derived from the records available with me and hence competent to swear this affidavit.

2. That I have read over the contents of the accompanying Application and same is true and correct and drafted on my instruction. I say that the documents annexed are true copies of the originals.

Mapusa, Goa 6.4.2015

DEPONENT

Annexure A-3

APPROVED GOA STATE COASTAL ZONE MANAGEMENT PLAN

NO.J-17011/12/92-IA-III
GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT & FORESTS
IA DIVISION
Paryavaran Bhavan, C.G.O. Complex,
Lodi Road, New Delhi 110 003.
September 27, 1996.

To,
Chief Secretary,
Govt. of Goa,
Panaji.

Subject : Coastal Zone Management Plan of Goa

The Coastal Zone Management Plan of Goa submitted vide letter No.31/7/TCP/96/221 dated 26-6-96 has been examined.

2. I am directed to convey its approval in accordance with the powers vested in Central Government under Section 3 (3) (i) of CRZ Notification, 1991 subject to incorporating the following conditions and modifications.

A. **General Conditions**

(i) All the relevant provisions of the Coastal Regulation Zone (CRZ) Notification, 1991 as amended in 1994, (after incorporating the directions given by the Hon'ble Supreme Court vide its judgement dated 18.4.1996) shall be strictly incorporated in the CZMP.

(ii) No activity that has been declared as prohibited under Section 2 of CRZ Notification, 1991 shall be carried out within the Coastal Regulation Zone.

(iii) The permissible activities shall be regulated in accordance with Section 3 and follow the norms for regulation as indicated in Section 6 (2) of CRZ Notification, 1991 as amended in 1994.

(iv) The classification of Coastal Regulation Zone shall be in accordance with Annexure-I, Section 6 (1). For development of Beach Resorts/Hotels in the designated areas of CRZ-III, the guidelines indicated under Annexure-II shall be followed.

(v) In addition to the information already available with the State Government of Goa, all ecologically important and sensitive areas shall be demarcated on the basis of the following sources of information:-

(a) National Parks, Sanctuaries and Marine Parks — Information published/available with Ministry of Environment & Forests (MOEF), Govt. of India (GoI).

(b) All reserve forests and protected Forests — As marked in the Forest Atlas updated through Biennel Forest Report Status published by Forest Survey of India (scale 1:50,000).

(c) Mangroves, Mudflats, Coral reefs/Corals — Maps prepared on the basis of Satellite Imagery in the scale of 1 : 25,000 by Space Application Centre, Ahmedabad and the information as published by MOEF, GoI.

(d) Breeding grounds for turtles, horse shoe crabs — Wildlife Institute, Dehradun.

(e) Historical and Heritage sites — As listed with Archaeological Survey of India, State Departments of Archaeology, Culture and Tourism in addition to the sites, if any, mentioned under specific conditions of this letter.

(f) Areas rich in genetic diversity — Information published/available with the MOEF, GoI.

(g) Areas of outstanding natural beauty — Government of Goa to decide keeping in view the generally recognised perception regarding such areas.

(h) Sea level rise due to global warming — National Institute of Oceanography.

In case the requisite information is not available from the sources mentioned above, information obtained from other sources may be used after pproval of MOEF.

(vi) On the basis of further studies or in the event of any additional such information brought to the notice of State Government/ Central Government all areas that are ecologically sensitive and important (as per CRZ Notification) shall be classified as CRZ-I by the UT Administration with the prior approval of MOEF.

(vii) The State Governments which have prepared maps on 1:25,000 scale through Satellite Imagery for the purpose of delineating the HTL, should submit these maps to the Chief Hydrographer, Govt. of India for the purpose of demarcation. Those State Governments which were not in a position to prepare the maps in this manner, should submit them to the Chief Hydrographer, Govt. of India for the purpose of vetting. It is advisable that whenever there is any doubt, any development activity should only be permitted after ground measurements from the HTL taking into consideration marks left by water, presence of mangroves, mudflats and beach.

(viii) State Government of Goa shall delineate on the maps LTL, HTL, 200 metres, 500 metres lines and other relevant lines in respect of creeks, backwaters and rivers affected by tidal action so that distances can be measured, whenever required.

(ix) All uninhabited islands are being classified as CRZ-I (subject to continuation of existing traditional rights, social rights and customary uses) except those islands which have been approved by MOEF, GoI as CRZ-III or CRZ-IV. In case of uninhabited islands classified as CRZ-I, in exceptional cases should a carrying Capacity Study establish that the proposed development will not have adverse ecological impacts, those particular islands could be reclassified as CRZ-IV, subject to prior approval of MOEF, GoI.

(x) Government of Goa shall ensure that all development and activities in CRZ areas take place within the framework of the approved Coastal Zone Management Plan. Violation shall be subject to the provisions of Environmental (Protection) Act, 1986 and other relevant laws.

(xi) Government of Goa or any other Authority so designated shall be responsible for monitoring and enforcement of the provisions of CRZ Notifications and CZMP.

(xii) Approval of this CZMP would not imply approval of any proposed project such as roads, airports, jetties, ports and harbours, buildings etc., indicated in the plan/map.

(xiii) All mangroves with an area of 1000 square metres or more would be classified as CRZ-I with a buffer zone of at least 50 metres.

(xiv) Dredged material will not be disposed within the CRZ area.

(xv) Sand dunes will be classified as CRZ-I.

(xvi) Parks, Play grounds, regional parks, green zones and other non-buildable areas falling within CRZ-II areas are categorised as CRZ-III.

(xvii) Government of Goa will not make any changes in the approved categorisation of CRZ areas without prior approval of Ministry of Environment & Forests, Government of India.

(xviii) Government of Goa will give wide publicity to CZMP and indicate the list of places where it is available/can be inspected.

Special Conditions/Modifications/Classification

A) CRZ along sea coast

Pernem Taluka

i. Tiracol Fort area is classified as CRZ-I and settlement area is classified as CRZ-III.

ii. The whole stretch of Querim is classified as CRZ-I because of outstanding natural beauty and sand dune area except settlement area which is classified as CRZ-III.

iii. The whole stretch falling in Paliem village is classified as CRZ-III.

iv. Sand dune and mangrove areas falling in Arambol village are classified as CRZ-I except settlement area which is classified as CRZ-III.

v. Settlement area falling in Mandrem village is classified as CR-III. Sand dunes, mangroves and turtle nesting sites are classified as CRZ-I.

vi. Sand dunes, mangroves and turtle nesting sites falling in Morjim village are classified as CRZ-I and settlement area is classified as CRZ-III.

Bardez Taluka

i. In Anjuna village, Chapora Fort is classified as CRZ-I and rest of the area is classified as CRZ-III.

ii. Calangute area is classified as CRZ-III except sand dunes which is classified as CRZ-I.

iii. Candolim is classified as CRZ-III except sand dunes and forts which are classified as CRZ-I.

Tiswadi Taluka

i. Dona Paula is classified as CRZ-I being a fort area.

Mormugoa Taluka

i. Substantially built up area of Vasco having approach roads, drainage and other infrastructural facilities is classified as CRZ-II, rest is classified as CRZ-III.

ii. Dabolim, Chicalim, Chicolna, Issorcim and Sancoale areas are classified as CRZ-III.

iii. Pale and Velsao areas are classified as CRZ-III. Cansaulim and Arossim are classified as CRZ-III except sand dunes which are classified as CRZ-I.

Salcete Taluka

i. The entire villages falling in Salcete Taluka namely, Utorda, Majorda, Gonsua, Betalbatim, Colva Sernabatim, Benaulim, Varca and Cavelossim are classified as CRZ-III except sand dunes which are classified as CRZ-I.

Quepem Taluka

i. The village of Quitol and Naquerim are classified as CRZ-III.

Canacona Taluka

i. The whole of Cola stretch is classified as CRZ-I except settlement area which is classified as CRZ-III.

ii. In Agonda, the entire Agonda village is classified as CRZ-I except built up areas which are classified as CRZ-III.

iii. Nagarcem area is classified as CRZ-I except settlement and built up areas which are classified as CRZ-III.

iv. Areas falling in Painguinium village are classified as CRZ-III.

v. In Loliem, the entire stretch is classified as CRZ-I except settlement and built up areas which are classified as CRZ-III

B) *CRZ Along banks of rivers, backwaters and creeks*

i. Along the rivers namely Tiracol, Chapora, Mandovi, Zuari, Sal, Talpona, creeks and backwaters in Goa influenced by tidal action, the extent of CRZ will be either 100 m or width of the river or creek or backwater whichever is less.

ii. Along Tiracol river, tidal influence is felt up to Patradevi. All the areas up to Patradevi within the CRZ having mangroves including mouth of Kerim bay, near Paliem, Densua Konad, Naibag and Torxem are classified as CRZ-I and rest as CRZ III.

iii. According to NIO, in Chapora river, tidal influence is felt up to Ibrampur in Tillari river whereas in Osalna river it is felt up to Belapur.

iv. All along Chapora river areas with mangroves including areas of river mouth, Siolim, Chopdem, Oxel, Tuembank, Colvale, Revora, Pirna are classified as CRZ-I and other areas classified as CRZ-III.

v. According to NIO, in the various tributaries of Mandovi river i.e. in the Madei river tidal influence is up to Gaulem; in Khandepar river upto Odi Karvada; in Sinquerim up to Verem and the three feeders of other tributary, the Mapusa river, tidal influence is upto Mapusa, Tivim and Mulgao.

vi. The areas at mouth of the river having reserved/protected forests, sand dunes of Caranzalem-Miramar and Nerul and all areas along the bank of river Mandovi having mangrove areas including Nerul, Verem, Ourem, Ribandar, Betim to Britona, outskirts of Mapusa, San Pedro, Banastarim, Volvoi and Savoi-Verem are classified as CRZ-I and rest of the areas, without mangroves and ecologically sensitive areas, are classified as CRZ-III.

vii. According to NIO, among the tributaries of Zuari river namely Sanguem, Kushawati and Siridao tidal influence is felt up to Sanguem, Avedem and Santana respectively.

viii. Dona Paulo promontory is classified as CRZ-I. Sao Jacinto island and all mangroves including those at Chicalim, Sancoale, Agassaim, mouth of Cumbarjua canal, Mercurim, upstream of Cortalim shipyard, entire length of Zuari river from Cortalim to Macazana are classified as CRZ-I and rest of the area classified as CRZ-III.

31

ix. In the feeders of river Sal tidal influence is felt up to Benaulim, Chinchinim and Cuncolim.

x. Ecologically sensitive areas along the rivers Sal and tributaries including dunes at Mobor and mangroves at Assolna, Cavelossim, Orlim, Benaulim, Navelim are classified as CRZ-I and the rest of the area is classified as CRZ-III.

xi. The tidal influence in river Talpona is felt up to Bhatpal. Along the banks of Talpona, sand dune areas at the mouth of the river and all the mangroves along the bank are classified as CRZ-I and the rest of the area as CRZ-III.

xii. In river Galgibaga, tidal influence is felt up to Velvada. The Galgibaga sand dunes and mangroves areas including Mashem, K.R. Bridge, Galgibaga, Painguinim are classified as CRZ-I, and the rest of the area is classified as CRZ-III.

xiii. With respect to Panaji and its environs, the following categorisation is approved:

a) Area along Ourem creek till confluence with Mandovi river is classified as CRZ-II.

b) Area along Mandovi river bank (from confluence with Ourem creek) westwards till the beginning of Children's Park of Campal is classified as CRZ-II.

c) Area on land ward side of existing road till Rotunda of Gaspar Dias is classified as CRZ-II.

d) Area west of Sports Authority of India complex up to Rotunda of Gaspar Dias is classified as CRZ-II.

e) Area from Rotunda of Gaspar Dias — Gaspar Dias beach to Caranzalem beach up to Cabo Raj Niwas is classified as CRZ-III.

f) Area from Cabo Raj Niwas to Dona Paula jetty is classified as CRZ-III.

g) Area of Dona Paula cove/bay is classified as CRZ-III up to line of existing authorised developments.

h) Area from Dona Paula cove/bay to Wainginim beach is classified as CRZ-III.

i) The plateau top to the extent is classified as CRZ-II (falling within municipal limits).

j) All areas outside municipal limits are classified as CRZ-III.

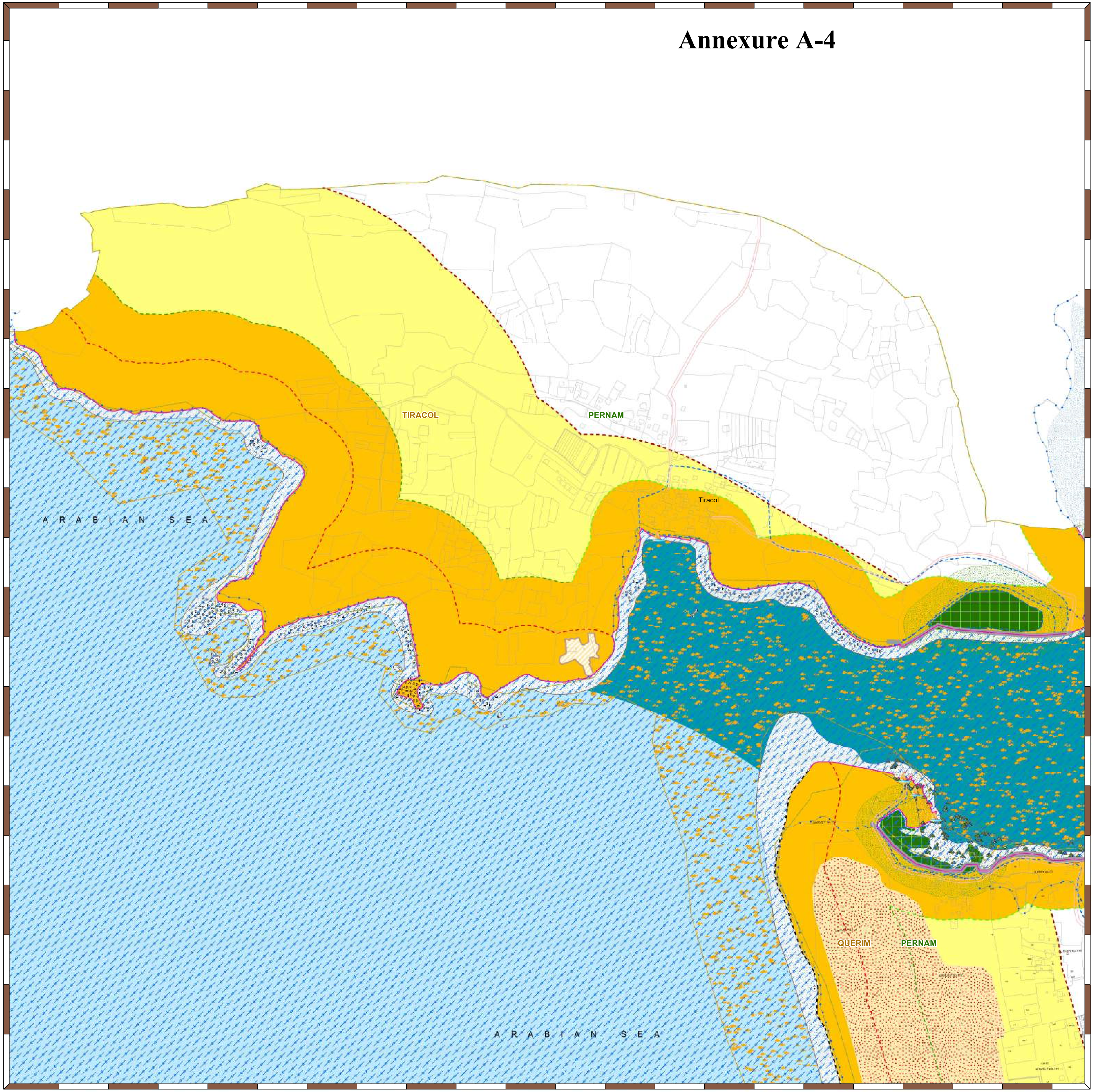
k) Wainginim beach is classified as CRZ-III.

l) From Wainginim beach to Siridao Beach and area up to Agassaim bridge is classified as CRZ-III.

The plan submitted by the Goa Government vide their letter No.31/7/TCP/96/221 dated 26-6-96 is not in conformity with the conditions/classification indicated above. These modifications may be made and the modified plan and maps sent to the Ministry within a period of two months for record.

Yours faithfully,
(S.K.MATHUR)
Deputy Secretary to the Govt. of India

Annexure A-4


TIRACOL
PERNAM
Tiracol
A R A B I A N S E A
QUERIM
PERNAM
A R A B I A N S E A

Note : HTL has been updated as per the amendment to the CRZ Notification 2011 vide S.O.1422(E) dt 1st May 2020. (Ver 1.0)

DRAFT COASTAL ZONE MANAGEMENT MAP
GOA STATE

Sheet No. : 235

Projection :- UTM Datum :- WGS 1984

Map No.GA: 235

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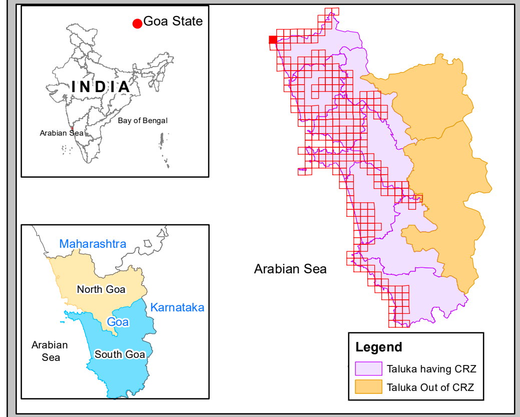
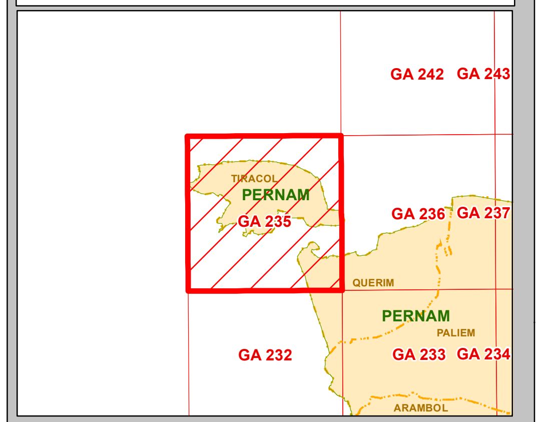

Goa State
INDIA
Bay of Bengal
Arabian Sea
Maharashtra
North Goa
Karnataka
Goa
Arabian Sea
South Goa
Arabian Sea
Legend
Taluka having CRZ
Taluka Out of CRZ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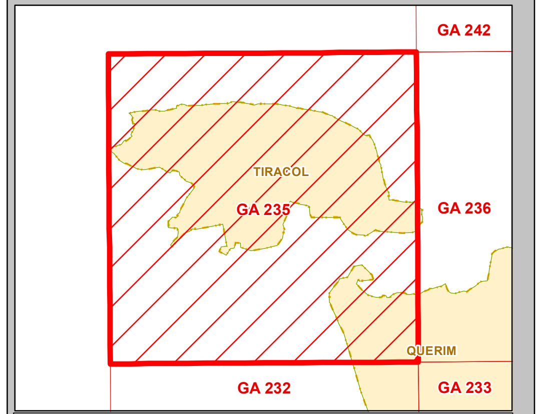
GA 235
GA 236
GA 237
QUERIM
PERNAM
PALIEM
GA 232
GA 233
GA 234
ARAMBOL


GA 242
TIRACOL
GA 235
GA 236
QUERIM
GA 232
GA 233

Legend

	Lighthouse/Beacon
	Fish Landing Centre/ Ramp
⊙	Water Quality Monitoring Location - SW-II
🟥	Multi Purpose Cyclone Shelters
■	Sluice Gate - Prior to 1991
▬	Bund - Prior to 1991
—	Road
	Railway Line
	Seawall
—	High Tide Line
—	Low Tide Line
	Hazard Line
	Port Limit
	Khazan Land
	Boat Parking /Net Mending Area
	Rock Outcrop
▨	Jetty or Shipyard
	Fishing Ward Boundary
	Fish Breeding Area
	Fisherman Community Complex
🟦	Waterbody
—	Survey Plots
	Village Boundary
	Municipal/Other Urban boundary
☐	Taluk Boundary

CRZ Lines

- · -	100m CRZ line for Bays
- - -	100 m Line in CRZ III Area
- - -	200 m Line - NDZ
- - -	500 m CRZ Line
- - -	CRZ Line for River or Creek

CRZ CATEGORY
CRZ - I

🟩	Mangroves - CRZ IA
	50m Mangrove buffer zone - CRZ IA
▨	Archaeological and heritage sites - CRZ IA
	Reserve Forest - CRZ IA
🟧	Mudflats - CRZ IA
🟨	Salt Marsh - CRZ IA
	Sand Dunes - CRZ IA
	Corals and coral reefs - CRZ IA
▨	Nesting Grounds of Birds - CRZ IA
	Turtle Nesting Grounds - CRZ IA
	Intertidal Zone -CRZ IB
	Aquaculture / Saltpan - CRZ IB

CRZ - II

	CRZ Landward of HTL - CRZ II

CRZ - III

🟧	No Development Zone - CRZ III
🟨	200 to 500 m from HTL - CRZ III

CRZ - IV

	Waterbody - CRZ IVA
🟦	Waterbody - CRZ IVB

DATA SOURCE

I) National Center for Sustainable Coastal Management
  1) HTL, LTL
  3) CRZ - IA
  4) Infrastructure facilities such as Lighthouse, Sea wall, Breakwater or Jetty

II) Survey of India
  1) Hazard Line

III) DSLR
  1) Road, 2) Survey Plots 3) Village Boundary
  4)Municipal Boundary 5) Taluk Boundary

IV) Department of Fisheries - Goa
  1)Fish Landing Centre/Ramp 2)Fishing Ward Boundary
  3)FishBreeding Area 4)Fisherman Community Complex
  5)Net Mending Yard

V) Department of Water Resources - Goa
  1) Bund prior to 1991
  2) Sluice Gate prior to 1991
  3) Khazan Land

VI) Goa State Pollution Control Board
  Water Quality Monitoring Location - SW - II

VIi) Department of Environment
  Port Limit, Light House, Beacon

ABBREVIATIONS

CRZ	:	Coastal Regulation Zone
NDZ	:	No Development Zone
DSLR	:	Directorate of Settlement & Land Records

Prepared by

NCSCM

National Centre for Sustainable Coastal Management
(Ministry of Environment, Forest & Climate Change)
Chennai - 600 025

Prepared for

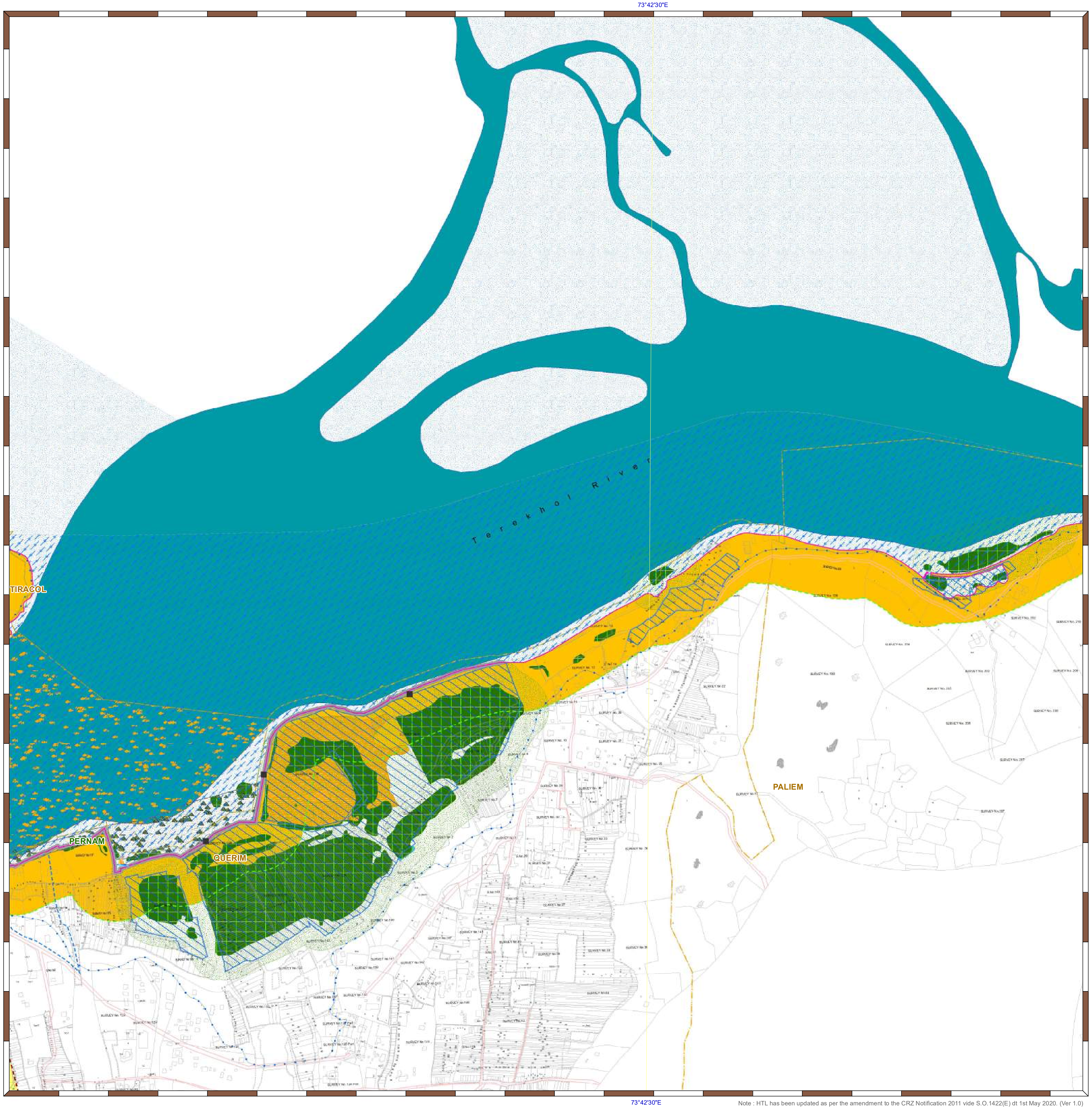
Department of Environment
Government of Goa

DRAFT COASTAL ZONE MANAGEMENT MAP
GOA STATE

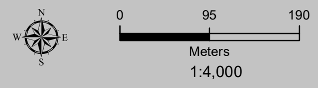
Sheet No. : 236

Projection :- UTM   Datum :- WGS 1984

Map No.GA: 236


73°42'30"E
T e r e k h o l R i v e r
TIRACOL
PERNAM
QUERIM
PALIEM
73°42'30"E

Note : HTL has been updated as per the amendment to the CRZ Notification 2011 vide S.O.1422(E) dt 1st May 2020. (Ver 1.0)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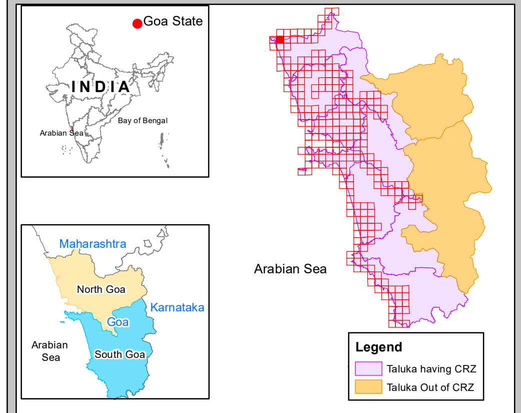
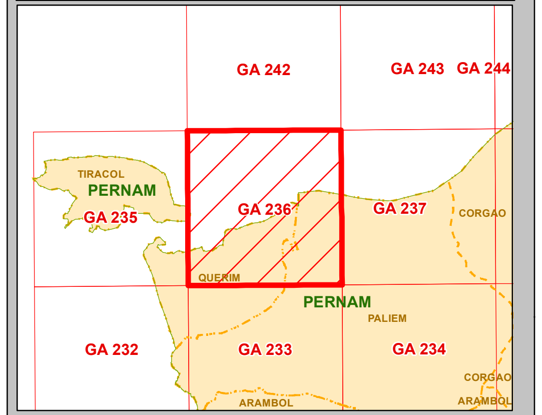

Goa State
INDIA
Bay of Bengal
Arabian Sea
Maharashtra
North Goa
Karnataka
Goa
Arabian Sea
South Goa
Arabian Sea
Legend
Taluka having CRZ
Taluka Out of CRZ


GA 242
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PALIEM
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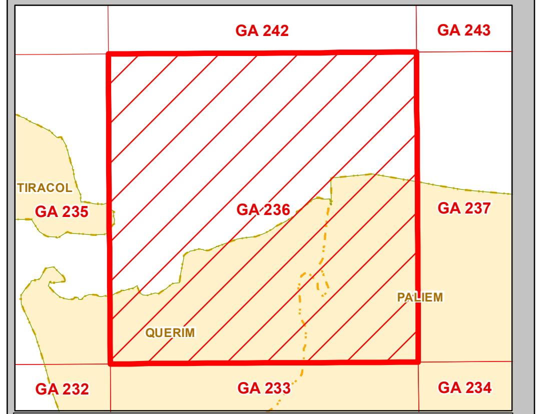
CORGAO
ARAMBOL
ARAMBOL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TIRACOL
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PALIEM
QUERIM
GA 232
GA 233
GA 234

Legend

- Lighthouse/Beacon
- Fish Landing Centre/ Ramp
- ⊙ Water Quality Monitoring Location - SW-II
- 🟥 Multi Purpose Cyclone Shelters
- ■ Sluice Gate - Prior to 1991
- Bund - Prior to 1991
- Road
- Railway Line
- Seawall
- High Tide Line
- Low Tide Line
- Hazard Line
- Port Limit
- ▨ Khazan Land
- Boat Parking /Net Mending Area
- Rock Outcrop
- ▨ Jetty or Shipyard
- Fishing Ward Boundary
- Fish Breeding Area
- ▦ Fisherman Community Complex
- 🟦 Waterbody
- Survey Plots
- Village Boundary
- Municipal/Other Urban boundary
- Talukl Boundary

CRZ Lines

- 100m CRZ line for Bays
- 100 m Line in CRZ III Area
- 200 m Line - NDZ
- 500 m CRZ Line
- CRZ Line for River or Creek

CRZ CATEGORY
CRZ - I

- 🟩 Mangroves - CRZ IA
- 50m Mangrove buffer zone - CRZ IA
- ▨ Archaeological and heritage sites - CRZ IA
- Reserve Forest - CRZ IA
- 🟧 Mudflats - CRZ IA
- Salt Marsh - CRZ IA
- Sand Dunes - CRZ IA
- Corals and coral reefs - CRZ IA
- ▨ Nesting Grounds of Birds - CRZ IA
- Turtle Nesting Grounds - CRZ IA
- Intertidal Zone -CRZ IB
- Aquaculture / Saltpan - CRZ IB

CRZ - II

- CRZ Landward of HTL - CRZ II

CRZ - III

- 🟧 No Development Zone - CRZ III
- 🟨 200 to 500 m from HTL - CRZ III

CRZ - IV

- 🟦 Waterbody - CRZ IVA
- 🟦 Waterbody - CRZ IVB

DATA SOURCE

I) National Center for Sustainable Coastal Management
  1) HTL, LTL
  3) CRZ - IA
  4) Infrastructure facilities such as Lighthouse, Sea wall, Breakwater or Jetty

II) Survey of India
  1) Hazard Line

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  1) Road, 2) Survey Plots 3) Village Boundary 4)Municipal Boundary 5) Taluk Boundary

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  1)Fish Landing Centre/Ramp 2)Fishing Ward Boundary 3)FishBreeding Area 4)Fisherman Community Complex 5)Net Mending Yard

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  Water Quality Monitoring Location - SW - II

VIi) Department of Environment
  Port Limit, Light House, Beacon

ABBREVIATIONS

CRZ : Coastal Regulation Zone
NDZ : No Development Zone
DSLR : Directorate of Settlement & Land Records

Prepared by

NCSCM

National Centre for Sustainable Coastal Management
(Ministry of Environment, Forest & Climate Change)
Chennai - 600 025

Prepared for

Department of Environment
Government of Goa

Annexure A-5

MOST URGENT
BY SPEED POST

No.11-83/2005-IA-III
Government of India
Ministry of Environment and Forests
(IA-III Division)

Paryavaran Bhawan,
CGO Complex, Lodhi Road,
New Delhi – 110003.

Dated, the 8th February, 2011

OFFICE MEMORANDUM

Sub: Consideration of projects in pipeline attracting Coastal Regulation Zone notification, 2011 issued vide S.O.No.19(E), dated 6th January, 2011 and Island Protection Zone (IPZ) Notification issued vide S.O.20(E), dated 6th January, 2011 – regarding.

****

With regard to the projects attracting Coastal Regulation Zone (CRZ) Notification, 2011 and Island Protection Zone Notification, 2011 which are at various stages of clearance the following action shall be taken:-

Sl. No.	Status	Action
1.	Projects attracting Coastal Regulation Zone (CRZ) Notification, 1991 which have been submitted to the concerned State/UT Coastal Zone Management Authorities	The concerned State/UT Coastal Zone Management Authority after examination of the projects in accordance with the CRZ 2011 or the IPZ Notification, 2011, as the case may be, shall recommend or reject the projects. The recommended project shall be forwarded for appraisal to State Environmental Impact Assessment Authority/MoEF, in accordance with the EIA Notification, 2006. Those projects which do not attract EIA notification shall be forwarded to MoEF for clearance.
2.	Considered and recommended by State/UT Coastal Zone Management Authority but not yet sent to MoEF	Action may be taken as per para 1 above.
3.	Received from State/UT Coastal Zone Management Authority and not yet sent to Central EAC/MoEF	Such projects which fall in 'B' category shall be sent for appraisal to SEIAA concerned and those projects which fall in 'A' category or do not attract EIA Notification, 2006 or where SEIAA has not been constituted, shall be examined by Centre EAC/MoEF under the CRZ 2011 and IPZ 2011.

4.	Those projects which are pending with the Central EAC/MoEF but final recommendation not yet provided by EAC	Action may be taken as per item 3 above
5.	Recommended by Central EAC under the CRZ Notification, 1991 and pending with MoEF	Decision shall be taken by MoEF in light of CRZ 2011 and IPZ 2011.

This issues with the approval of the Competent Authority.

Sd/-
(Dr. A. Senthil Vel)
Director

To,

1. Chairman, West Bengal Coastal Zone Management Authority, Government of West Bengal, Writer's Building, G – Block, 2nd Floor, Kolkatta – 700 001.
2. Chairman, Gujarat State Coastal Zone Management Authority & Principal Secretary, Forests and Environment Department, Block No. 14, 8th Floor, Sachivalaya, Gandhinagar – 382010, Gujarat.
3. Chairman, Karnataka State Coastal Zone Management Authority & Principal Secretary, Department of Forest, Ecology and Environment, Government of Karnataka, Multistoried Building, K.G. Road, Bangalore – 560 001.
4. Chairman, Orissa State Coastal Zone Management Authority & Principal Secretary, Science, Technology & Environment and Forests Wing, Orissa Secretariat, Bhubaneshwar – 751001.
5. Chairman, Andhra Pradesh State Coastal Zone Management Authority & Additional Chief Secretary, Government of Andhra Pradesh, Environment Forests Science and Technology Department, Secretariat, Hyderabad – 500 022.
6. Chairman, Daman & Diu Coastal Zone Management Authority & Administrator, Daman and Diu, Daman – 396210.
7. Chairman, Pondicherry Coastal Zone Management Authority & Principal Secretary, Department of Science, Technology and Environment and Housing Board, Pondicherry – 605001.
8. The Chairman, Tamil Nadu State Coastal Zone Management Authority & Principal Secretary, Department of Environment and Forests, First Floor, Panagal Building, Saidapet, Chennai – 600015, Tamil Nadu.
9. Chairman, Kerala State Coastal Zone Management Authority, Sasthra Bhawan, Pattom, Thiruvananthapuram – 4.
10. The Chairman, Maharashtra Coastal Zone Authority, Environment Department, 15th Floor, New Administrative Building Opposite Mantralaya, Madam Cama Road, Bombay – 400 020.
11. Chairman, Goa State Coastal Zone Management Authority & Chief Secretary, Secretariat, Alto Porvorim, Panjim, Goa. 2419626.
12. Chairman, Lakshadweep Coastal Zone Management Authority & Administrator, Administration of UT of Lakshadweep, Kavaratti – 682555
13. Chairman, Andaman & Nicobar Coastal Zone Management Authority, Principal Conservator of Forest, Andaman and Nicobar Islands Administration, Chatham, Port Blair – 744 102
14. Chief Secretary, U.T. of Andaman & Nicobar Islands, Secretariat, Port Blair, Andaman -744101.
15. Secretary, Environment Department, Government of Maharashtra, 15th Floor, New Administrative Building Opposite Mantralaya, Madam Cama Road, Bombay – 400 020.
16. Principal Secretary, Department of Science, Technology and Environment, Government of Goa, Opposite Saligao Seminary, Saligao, Goa-403511.

17. Additional Chief Secretary, Government of Andhra Pradesh, Environment Forests Science and Technology Department, Secretariat, Hyderabad – 500 022.
18. Principal Secretary, Forests and Environment Department, Government of Gujarat, Block No. 14, 8th Floor, Sachivalaya, Gandhinagar – 382010, Gujarat.
19. Principal Secretary, Department of Forest, Ecology and Environment, Government of Karnataka, Multistoried Building, K.G. Road, Bangalore – 560 001
20. Principal Secretary, Science, Technology & Environment and Forests Wing, Government of Orissa, Orissa Secretariat, Bhubaneshwar – 751001.
21. Secretary, Department of Science, Technology and Environment and Housing Board, Government of Pondicherry, Secretariat, Pondicherry – 605001.
22. Principal Secretary, Department of Environment and Forests, Government of Tamil Nadu, First Floor, Panagal Building, Saidapet, Chennai – 600015, Tamil Nadu.
23. The Secretary, Department of Environment, Government of West Bengal, Writer's Building, G – Block, 2nd Floor, Kolkatta – 700 001.
24. Chairman, Science, Technology & Environment Department, Government of Kerala, Sasthra Bhavan, Pattom, Thiruvananthapuram-4.
25. Administrator-cum-Secretary, Daman and Diu, Secretariat, Moti Daman, Daman – 396210.
26. Administrator, U. T. of Lakshadweep, Secretariat, Kavaratti-682555.
27. Chief Conservator of Forests, Southern Zone, Sadan, 4th Floor, E&F Wing, II Block Koramangala, Banglore-560034.
28. Chief Conservator of Forests, Eastern Zone, A/3, Chandersekharpur, Bhubaneswar-751023.
29. Chief Conservator of Forests, Western Zone, Kendriya Paryavaran Bhavan, Link Road No.3, Bhopal-462016.
30. Chief Conservator of Forests, North-Eastern Zone, Upland Road, Laitumhran Shillong-793003.
31. Chief Conservator of Forests, Central Zone, Kendriya Bhavan, 5th Floor, Sector-H, Aliganj, Lucknow-226024.
32. Conservator of Forests, Northern Zone, Bay No.24-25, Sector 31-A, Dakshim Marg, Chandigarh-160030.

****

47

Annexure A-6

ANNEX J

F. No. 2-1/2003-FC
Government of India
Ministry of Environment & Forests
(FC Division)

Paryavaran Bhawan,
CGO Complex, Lodhi Road,
New Delhi – 110003
Dated: 21st March, 2011.

To

The Chief Secretary / Administrator,
All States and Union Territories.

Sub: Revision of para 4.4 of the guidelines on Forest (Conservation) Act, 1980 regarding projects involving Forest as well as Non-forest Lands.

Ref: Ministry's letter of even number dated 6th January, 2011 and withdrawal of the same vide dated 17th February, 2011.

Sir/Madam,

Consequent upon withdrawal of Ministry's letter dated 6th January, 2011 regarding revision for para 4.4 of the guidelines on Forest (Conservation) Act, 1980 pertaining to projects involving forests as well as non-forest lands, I am directed to reiterate that the status-quo on the guideline is being restored.

Therefore, the para 4.4 of the Guideline on Forest (Conservation) Act, 1980 shall finally be read as reproduced below –

"4.4 Project involving Forest as well as Non-forest Lands

Some projects involve use of forest land as well as non-forest land. State Governments / project authorities sometimes start work on non-forest lands in anticipation of the approval of the Central Government for release of the forest lands required for the projects. Though the provisions of the Act may not have technically been violated by starting of work on non-forest lands, expenditure incurred on works on non-forest lands may prove to be infructuous if diversion of forest land involved is not approved. ***It has, therefore, been decided that if a project involves forest as well as non-forest land, work should not be started on non-forest land till approval of the Central Government for release of forest land under the Act has been given."***

Yours faithfully,

(Umakant)
Assistant Inspector General of Forests

Copy to:-

1. The Secretary (Forests), All States / UTs
2. All PCCF/Nodal Officers (All States/UTs).
3. All Regional Offices.
4. All concerned officers of F.C. Division.
5. Monitoring Cell, FC Division, MoEF, New Delhi. NIC may be requested to place it on MoEF's website
6. Guard file.

(Umakant)
Assistant Inspector General of Forests

Annexure A-7

ANNEX 17

93

9/10

GOVERNMENT OF GOA
Office of the Prin. Chief Conservator of Forests
Forest Department
Panaji, Goa 403001
Ph:- 0832-2224748, 2421414,Fax:-0832-2224748.
Email: dcfme forest goa @ nic in

No.6-829-2014-15-FD/ 5845 Dated: 09/02/2015.

To,
The Managing Director,
Goa State Infrastructure Development Corporation Ltd.,
7th Floor, EDC House,
Dr. Atmaram Borkar Road,
Panaji-Goa 403001.

Sub: Diversion of forest area for Design & Construction of Bridge connecting Keri to Tiracol over river Tiracol including approaches.

Ref : Your letter No. GSIDC/Engg/Works/854/6243 dated 13/01/2015.

Sir,

The Ministry of Environment & Forests vide letter No. 11-232/2014-FC (pt.) dated 24/07/2014 has made the online submission and processing of proposals mandatory for approvals under the Forest (Conservation) Act-1980 from August 2014. A copy of the guidelines is enclosed herewith. The proposal referred above is being processed with the hardcopy submitted to avoid delays and is in advance stage. However it is requested that the proposal may also be submitted online at the earliest in compliance of the Ministry's guidelines.

The document on the ownership of land / NOC from land owner in favour of project proponent along with the actual numbers of trees which will be required to be felled for the project may also be submitted on priority basis for sending the proposal to higher authorities for approval.

Yours faithfully,

Encl:- As above

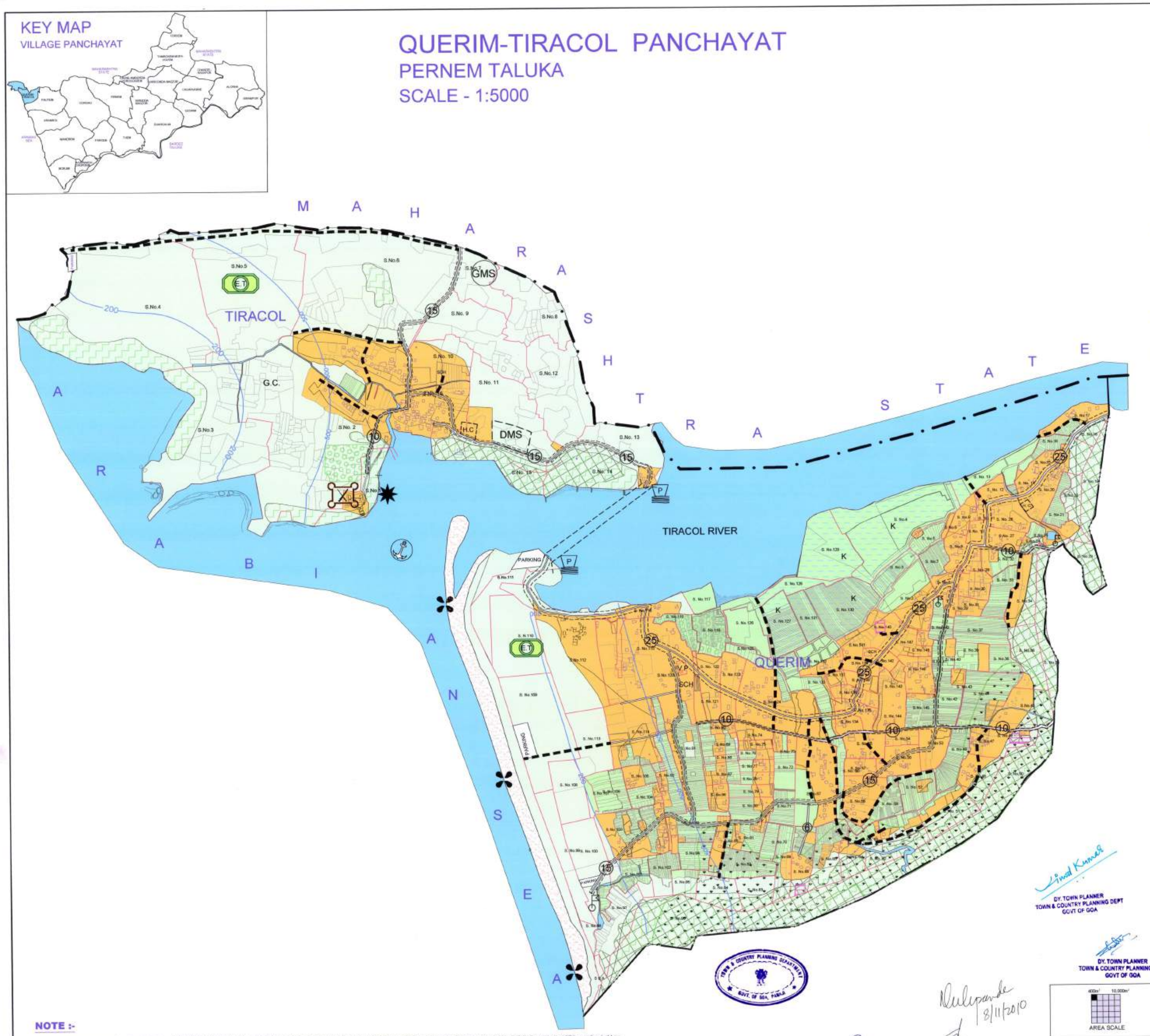
(N.C. Saravanan)IFS
Dy. Conservator of Forests,
Monitoring & Evaluation

Copy to.
The Dy. Conservator of forest (North) for information and necessary action please.

"Swach Bharat Nital Goem"

Annexure A-8

QUERIM-TIRACOL PANCHAYAT
PERNEM TALUKA
SCALE - 1:5000



LAND USES

ECOLOGICALLY SENSITIVE AREAS (ECO-1)

▨	NO DEVELOPMENT SLOPES
🟩 K	PADDY FIELDS / KHAZANS
🟦	RIVER / NALLAS / PONDS
⬭	SAND DUNES / SANDY AREAS

OTHER ECOLOGICALLY SENSITIVE AREAS (ECO-2)

· · ·	CULTIVABLE LAND
▭	ORCHARD
▨	NATURAL COVER
· · ·	IRRIGATION COMMAND AREAS

SETTLEMETS

🟧	SETTLEMENT AREA

TRANSPORTATION

EXISTING

═══	MAJOR DISTRICT ROADS (25m)
═══	MAIN PANCHAYAT ROADS (15m)
═══	OTHER PANCHAYAT ROADS (10m)
───	OTHER ROADS
‐ ‐ ‐	PROPOSED ROADS
⚓	MINOR PORTS

ADMINISTRATIVE BOUNDARIES

— · —	STATE BOUNDARY
— · · · —	PANCHAYAT BOUNDARY
───	SURVEY BOUNDARY
───	SUB DIVISION BOUNDARY

OTHERS

▭	CREMATORIUM / CEMETERY
▨	PLAY GROUND
ET	ECO - TOURISM SITE
—200—200—	200 MTR. LINE FROM HTL.
—500—500—	500 MTR. LINE FROM HTL.
DMS	DISASTER MANAGEMENT SITE
GMS	GARBAGE MANAGEMENT SITE
G.C.	GOLF COURSE
H. C.	HEALTH CENTER
SCH	SCHOOL
V. P.	VILLAGE PANCHAYAT OFFICE
⛩	TEMPLE
✝	CHURCH / CHAPEL
⌒	PROPOSED BRIDGE
P	PASSENGER JETTY
⌘	FORTS
✱	TOURIST BEACH HEAD/TOURIST PLACES

Vinod Kumar
DY. TOWN PLANNER
TOWN & COUNTRY PLANNING DEPT
GOVT OF GOA

DY. TOWN PLANNER
TOWN & COUNTRY PLANNING DEPT
GOVT OF GOA

NOTE :-

1. This plan showing proposed Surface Utilization of QUERIM - TIRACOL V.P forms part of the Regional Plan for GOA 2021 of PERNEM Taluka which has been approved by the T.C.P. Board in its 137th meeting held on 8/11/10 & approved by Govt. vide note no. 29/8/TCP2010/RP-21/________ dated 8/11/10
2. All the O.D.P's & Zoning Plans (ZP's) prepared in the past by P.D.A's/T.C.P.D., as the case may be and are in force (both in P.D.A areas & non P.D.A areas) have been incorporated in to the RPG-2021. Respective O.D.P's /Zoning Plans shall be referred for details and development control of developable areas only as per RPG-2021. In case of any variations, the matter shall be referred to the T.C.P. Board for its opinion/interpretation.
3. Private Forest areas indicated in this plan are subject to the final confirmation & demarcation by the competent Authorities.
4. Surface Utilization Plans shall be read with the report of RPG-2021 (Release I/Final) for interpretation.
5. This Surface Utilization Plan shows broad land uses which are to be read along with guidelines for interpretation of permissible land uses.
6. All past commitments/developments like sub-division approvals by competent Authorities, conversion sanad under LRC, building approvals/NOC's granted, shall be honoured for specific uses, if not reflected in this plan.
7. All NOCs for Land Acquisition for specific purposes under the L.A. Act 1894 issued by TCP Dept for specific uses /activities shall be treated as confirming to the said use for which NOC was issued. The same shall not hold good, in case where acquisition proceedings are dropped by the Govt. and shall be treated as per uses indicated in the Surface Utilization Plan.
8. Not withstanding anything contained in this Plan, the developments shall be subject to the provisions of Tenancy Act, Land Use Regulation Act, Forest Conservation Act, Highways Act, Ancient Monuments and Archaeological Sites and Remains Act (State and Central) EIA notifications issued by the MOEF or any other Act/Rule as applicable.

S.T.
Senior Town Planner,
TOWN AND COUNTRY PLANNING DEPT.,
PANAJI.

CHIEF TOWN PLANNER
Town & Country Planning Dept.
Panaji - Goa.

SECRETARY TO CHIEF MINISTER/(JCO)

CHIEF MINISTER
Govt. of Goa

8/11/2010

08/11/2010

8/11/10

Original or Approved Sub - Division Plots upto 350 m² will be allowed upto 80 FAR irrespective of the VP Status of Settlement Category.

400m² 10,000m²
AREA SCALE

POPULATION:-
2001 - 3056
2021 - 3089

DPR STATUS
VP2

MAX- FAR PROPOSED

BLOW 4000 m²	60
4000m² & ABOVE	50

QUERIM - TIRACOL PANCHAYAT
PERNEM TALUKA

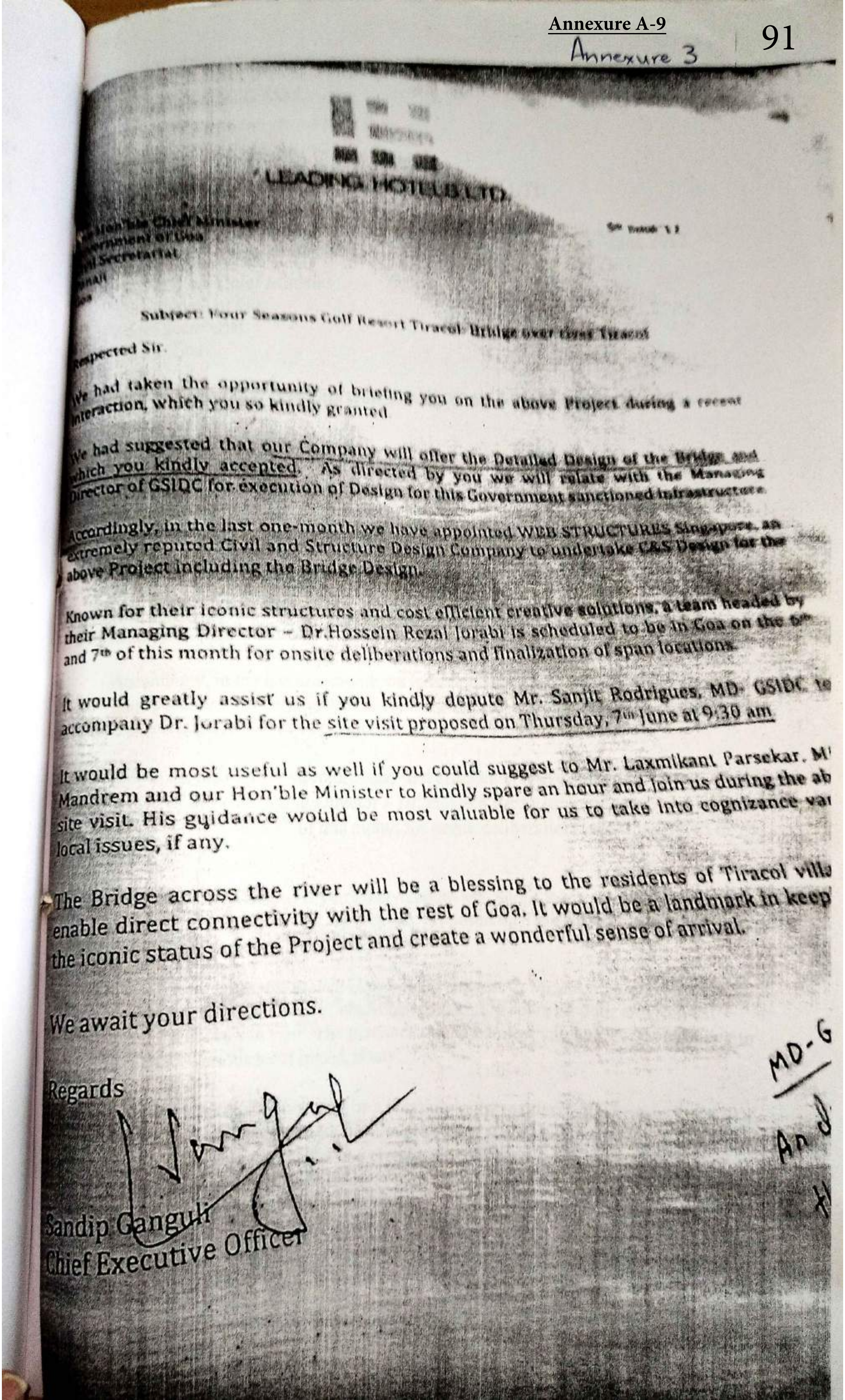
REGIONAL PLAN
FOR GOA-2021 (RPG-21)

FINAL / 06.11.2010

REGIONAL PLAN DIVISION
TOWN AND COUNTRY PLANNING DEPT.
GOVT. OF GOA

N

250 100 0 500m



Annexure 3

LEADING HOTELS LTD.

Hon'ble Chief Minister
vernment of Goa
il Secretariat
nali
oa

5th [illegible]

Subject: Four Seasons Golf Resort Tiracol- Bridge over river Tiracol

Respected Sir.

We had taken the opportunity of briefing you on the above Project during a recent interaction, which you so kindly granted

We had suggested that our Company will offer the Detailed Design of the Bridge and which you kindly accepted. As directed by you we will relate with the Managing Director of GSIDC for execution of Design for this Government sanctioned infrastructure.

Accordingly, in the last one-month we have appointed WEB STRUCTURES Singapore, an extremely reputed Civil and Structure Design Company to undertake C&S Design for the above Project including the Bridge Design.

Known for their iconic structures and cost efficient creative solutions, a team headed by their Managing Director – Dr.Hossein Rezai Jorabi is scheduled to be in Goa on the 5th and 7th of this month for onsite deliberations and finalization of span locations.

It would greatly assist us if you kindly depute Mr. Sanjit Rodrigues, MD- GSIDC to accompany Dr. Jorabi for the site visit proposed on Thursday, 7th June at 9:30 am

It would be most useful as well if you could suggest to Mr. Laxmikant Parsekar, M Mandrem and our Hon'ble Minister to kindly spare an hour and join us during the ab site visit. His guidance would be most valuable for us to take into cognizance va local issues, if any.

The Bridge across the river will be a blessing to the residents of Tiracol villa enable direct connectivity with the rest of Goa. It would be a landmark in keep the iconic status of the Project and create a wonderful sense of arrival.

We await your directions.

Regards

Sandip Ganguli
Chief Executive Officer

MD-G

And

H

LEADING HOTELS LTD

5th June 2012

The Hon'ble Chief Minister
Government of Goa
Chief Secretariat
Panaji, Goa

Subject: Four Sessions Golf Resort Tiracol Bridge over river Tiracol

Respected Sir,

We had taken the opportunity of briefing you on the above Project during a recent interaction, which you so kindly granted.

We had suggested that our Company will offer the Detailed Design of the Bridge and which you kindly accepted. As directed by you we will relate with the Managing Director of GSIDC for execution of Design for this Government sanctioned infrastructure.

Accordingly, in the last one-month we have appointed WEB STRUCTURES Singapore, as extremely reputed Civil and Structure Design Company to undertake C & S Design for the above Project including the Bridge Design.

Known for their iconic structures and cost efficient creative solutions, a team headed by their Managing Director – Dr. Hossein Rezai Jorabi is scheduled to be in Goa on the 6th and 7th of this month for onsite deliberations and finalization of span locations.

It would greatly assist us if you kindly depute Mr. Sanjit Rodrigues, MD, GSIDC to accompany Dr. Jorabi for the site visit proposed on Thursday, 7th June at 9.30 a.m.

It would be most useful as well if you could suggest to Mr. Laxmikant Parsekar, MLA, Mandrem and our Hon'ble Minister to kindly spare an hour and join us during the above site visit. His guidance would be most valuable for us to take into cognizance various local issues, if any.

The Bridge across the river will be a blessing to the residents of Tiracol village to enable direct connectivity with the rest of Goa. It would be a landmark in keeping the iconic status of the Project and create a wonderful sense of arrival.

We await your directions.

Regards,

Sd/-

Sandip Ganguli
Chief Executive Officer

Annexure A-10

MINUTES OF MEETING HELD ON 7TH JUNE 2012 PERTAINING TO THE PROJECT, "BRIDGE CONNECTING KERI TO TIRACOL OVER TIRACOL RIVER"

Present .

GSIDC

1)	Shri Sanjit Rodrigues	Managing Director
2)	Shri Umesh Naik	Consulting Engineer (Civil) – II
3)	Shri Sandip K. Prabhu Chodnekar	Manager (Engg.)

LEADING HOTELS

4)	Shri Sandip Ganguli	CEO
5)	Dr. Hussain Rezai Jorabi	Managing Director, Web Structure, Singapore
6)	Dr. Prabhat Poddar	Vastu Architect
7)	Shri N. S. Ashok	Project Coordinator
8)	Shri Kundan Prabhu	Local Architect
9)	Shri Anand Mishra	Surveyor

Detail deliberation was done on various broad aspects and parameters for conceptualization of the project like alignment. land acquisition, design, services. connecting roads and junctions.

The following points were discussed and finalized :-

1) *Alignment and Approaches*

   i) Alignment proposed by Dr. Hussain Jorabi connecting Keri and Tiracol at location which has shortest river width was in tune with the alignment studied by GSIDC and was finalized which would be approximately 250 m.

   ii) Approaches would connect both sides to the existing roads and would be approx. 130 m on each side.

   iii) Widening of road would take place on Keri side upto bus stand.

   iv) On Tiracol side, approaches would connect the existing road which would be widened with an appropriate junction design at the intersection of the approach to the existing village. The widening of the village road including portion leading to Fort Tiracol would also be taken up.

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2) ***Land Acquisition***

i) Leading Hotels would submit proposed bridge alignment with approaches and the area and survey numbers required for land acquisition and identify land acquired by Tourism Department and PWD.

ii) Leading Hotels would submit NOC for use of land owned by them and needed to be acquired for the project along with proper survey plan, land records and property documents, if any.

3) ***Design Aspect of Bridge***

i) Bridge would span from Keri to Tiracol without any piers in the river.

ii) Bridge would be two lane with 7.5 m carriageway with footpaths on both sides of 2.25 m width.

iii) Basic design would be cable stayed or arch type bridge spanning minimum 250 m to 300 m.

iv) Head Room would be 11 m from HTL for span of 75 m in river as per the regulations of Captain of Ports department.

v) Inspection gantry would be provided.

vi) Provision for power line and water line to be provided within the bridge keeping aesthetics of the bridge and the locality in mind.

4) ***Survey***

Leading Hotels to carry out following surveys before starting actual design :-

a) Geo technical survey.

b) Land survey along the alignment.

c) Bathymetric survey in river.

d) Establish benchmarks like HTL. LTL, etc.

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Annexure A-11

Agenda note for the 111th Board Meeting of GSIDC Limited to be held on _______________ 2012 C/15

Item No. Bridge connecting Keri to Tiracol over river Tiracol – Approval for taking up of work and appointing consultant.

Agenda Note Tiracol is situated on Goa's border. The access to this village is by ferry from Keri. It is a long pending demand of the villagers to be connected to main land by a bridge. The Tiracol fort is heritage structure and tourist destination and also lies on other side. To cater to aspirations of the people and to exploit the potential of place as tourist destination, the project of "Bridge connecting Keri to Tiracol over river Tiracol" was announced in Budget Speech 2012 (Sr. No.75, Page 26 of Budget Speech).

A letter is received from the Leading Hotels Ltd. (**Annexure – I**). Leading Hotels Ltd. has offered to give a detailed design of bridge over river Tiracol as they have a Golf Resort project coming up at Tiracol. Besides, assistance for finalizing the site location and alignment of the bridge.

As per the practice followed in GSIDC, the construction of such bridges involves appointment of consultant empanelled from the list of GSIDC on competitive bidding.

Generally, the scope of consultancy includes design & project management, etc. In this case, offer is limited only for the detail design of the bridge.

Site at Keri was inspected and a tentative alignment arrived, which is placed at **Annexure – II**. Also, the minutes of the site visit are placed at **Annexure – III**.

Decision The Board may kindly consider the above facts and give a suitable decision on the following :-

1) To take up the work, "Bridge connecting Keri to Tiracol over river Tiracol".
2) To accept the offer of leading consultants for a detailed design of the bridge.
3) To appoint a proof consultant and PMC by GSIDC.
4) To ask Leading Hotels Ltd. to bear the fees of Proof Consultant and PMC as part of their design proposal.

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GSIDC Limited.
Panaji, Goa.

8th June 2012

NOTE

Sub. : Four Seasons Golf Resort Tiracol : Bridge over River Tiracol.

We were in receipt of letter dated 5th June 2012 (C/1) from Shri Sandip Ganguli, Chief Executive Officer of Leading Hotels Ltd. and as directed, a meeting was conducted at above mentioned project site on 7th June 2012 which was attended by officials of GSIDC and Leading Hotels Ltd. Draft minutes of the meeting in this regard and draft letter are prepared and placed in the file at **C/2 – C/4** for approval.

(Sandip K. Prabhu Chodnekar)
Manager (Engg.)

C. E. - II

We are in receipt of letter dated 5th June 2012 **(C/1)** from Leading Hotels Ltd. wherein they had requested a site visit on 7th June 2012. As per remarks of office of Chief Minister, the GSIDC team visited the site on 7th June 2012 at 9.30 a.m. The issues discussed during the site visit are placed as minutes of meeting on **C/2 – C/3**.

The Leading Hotels Ltd. has offered detailed design of the bridge over river Terekhol, besides, the assistance for finalizing the site location and alignment of the bridge. The proposal to construct the bridge over river Terekhol has figured in Budget Speech 2012 (Sr. No.75, Page 26 of Budget Speech). As per the practice followed in GSIDC, the construction of such bridges involves appointment of consultant empanelled from the list of GSIDC on competitive bidding. Generally, the scope of consultancy includes design & project management (supervision), etc. In this case, the offer is limited only for the detailed design of the bridge. It will need the approval from the competent authority / GSIDC Board and thereafter Government / Cabinet for deviating the procedures adopted by GSIDC.

In case the proposal of Leading Hotels is accepted, we may have to go for appointment of proof consultant to check the design calculations of Leading Hotels Ltd. consultant, besides, appointment of PMC (supervision).

The issues discussed during the meeting are summarized as below :-

1) Leading Hotels Ltd. will furnish detailed design of the bridge.
2) They will hand over the land in their possession at Terekhol site and furnish all survey plans and survey particulars for the area to be acquired at Keri side. They will also furnish bathymetric survey and required soil exploration data.
3) The basic design of the bridge shall be either arch or cable stayed bridge.

The proposal is submitted for decision.

(Umesh Naik)
Consulting Engineer (Civil) – II

M. D.

Sec. [illegible] 10360
Date 11/06/12
GSIDC

Fair copies of minute placed on file. File may be forwarded for approval

13/6

M.D. 1. Site at Keri-Tiracol was inspected and a tentative alignment arrived at.

2. Minutes of the site visit may kindly be seen at C/8.

3. As per their letter at 1/c. the company has offered to give a detailed design of the bridge as they have a Golf Resort project coming up at Tiracol.

4. It is proposed to appoint a proof. consultant and PMC by GSIDC and we may ask the company to bear their fees as part of their design proposal.

13/6/12.

Office of the Chief Minister
Secretariat [illegible]
Inward No. 4331-L
Date 18/6/12

Hon. Chairman

may put up in the board for decision

Thanikar
20/6.

MD/GSIDC.

22/6/12

CE/II put up agenda note [illegible]
Sh. Sandeep Chodankar

20/6

Agenda put up for Approval at C11 to C15

CE/II corrected draft put up for app[illegible]

20/6

~~MD~~

20/6/12

Sh. Sandeep [illegible]

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We are receipt of letter dated 7th Ac
from leading hotels draft reply is place
at C/18
for Approval please

Board in its 116th Meeting decided to appoint full fledged consultant for the above project Hence letter of invitation may be sent to the Consultant empanelled by GSIDC for Bridge work. .

22/1

Addl. Manager

22/1

Am Sachu

~~Agenda was moved in the 116th Board meeting held on~~

Draft of Contract documents for Consultancy Services for the work under reference, i.e. Volume-I, Volume-II & Volume III are placed in the file for approval.
The total cost of the project is more than 50 Crores. The said project falls under category-1 i.e. (Bridge, Roads and Highways), Class-B (Works ~~upto~~ costing above Rs. 50 Crore and upto Rs. 150 Crore).
In view of above, it is proposed to initiate the process of appointment of Consultant for providing Consultancy services.
The date of issue of Bid documents is kept from 24/01/2013 to 04/02/13. The last date of submission and opening of Bid document is kept on 06/02/2013. Pre-tender activity Period is considered for 3 months. Draft letter of invitation is placed at C/30 - C/31 for approval.
Put up for approval.

22/01/2013

Additional Manager
for consultancy
The draft of letter of Invitation from the Category I (Bridges
Bids for the said work
CLASS A and B is prepared and placed at C/30 - C/31 for approval.
If approved, we may issue the letter to all
13 Empanelled Consultant under Class A & B. of category
Bridges.

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/4

Submitted for approval.

22/1/13

Manager (Engg) Shri. Chodnekar

Approval of draft letter & invitation for Consultancy Bids for Travel Bridge

22/1

M.D.

22/1/13

Addl. Manager

Chodnekar
22/1

22/1

Am Sachin

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[**Typed copy of pgs.** **]**

Fair copies of Minutes placed on file. File may be forwarded for approval

M.D

1. Site at Keri-Tiracol was inspected and a tentative alignment arrived at.

2. Minutes of the site visit may kindly be seen at C/8

3. As per their letter at 1/C the Company has offered to give a detailed design of the bridge as they have a Golf Resort project coming up at Tiracol.

4. It is proposed to appoint a prof. (sic) consultant and PMC by GSIDC and we may ask the company to bear their fees as part of their design proposal.

Sd/- (13/06/2012)

May put up in the board for decision

Hon. Chairman (SD/-)

CE-II - Put up agenda note

Agenda put up for approval at C11 to C15 (Sd/-)

CE-II

Corrected draft put up for approval (Sd/-)

We are in receipt of letter dt. 7th Aug from Leading Hotels. Draft reply at C/17.

For approval please. (Sd/-)

Board in its 116th Meeting decided to appoint full fledged consultant for the above project. Hence letter of invitation may be sent to the Consultant empanelled by GSIDC for bridge work. (Sd/-)

Addl Manager (Sd/-)

Draft of contract documents for consultancy services for the work under reference i.e. Volume – I, Volume – II & Volume III are placed in the file for approval.

The total cost of the project is more than 50 Crores. The said project falls under category -1 i.e. (Bridges, Roads and Highways), Class-B (Works casting above Rs. 50 Crore and upto Rs. 150 crore)

In view of above, it is proposed to initiate the process of appointment of consultant f or providing consultancy service. The date of issue of Bid documents is kept from 24.01.2013 to 04/02/13. The last date of submission and opening of Bid document is kept on 06/02/2013. Pre-tender activity period is considered for 3 months. Draft letter of invitation is placed at c/30 –c/31 for approval.

Put up for approval. (Sd/-)

Additional Manager

The draft of letter of invitation for consultancy Bids for the said work from the Category I CLASS A and B is prepared and placed at c/30 –c/31 for approval.

If approved, we may issue the letter to all 13 empowered consultant under class A & B of category Bridges.

Submitted for approval. (Sd/- 22/01/2013)

Manager (Engg) ____

Approval of draft letter of invitation for consultancy Bids for Tiracol Bridge. (Sd/- 22/01/2013)

Addl Manager (Sd/- 22/01/2013)

Annexure A-12

GOA STATE INFRASTRUCTURE DEVELOPMENT
CORPORATION LIMITED
(A Government of Goa Undertaking)
Registered Address, 7th Floor EDC House, Dr Atmaram Borkar Road Panaji - Goa 403 001

No.GSIDC/19/1171

13 June 2012

To

The Chief Executive Officer,
Leading Hotels Ltd.,
573, Road four,
La Campala, Miramar
Panaji. goa – 403 001.

Sir,

Sub. : Bridge connecting Keri to Tiracol over Tiracol River.

Please find enclosed herewith the minutes of meeting held at above mentioned project site for your information and necessary action. Progress on action taken at your end may be intimated to this office every seven days. It is proposed to have review meetings to ascertain progress every 15 days. dates of which will be intimated to you in due course.

Thanking you,

Yours faithfully,

(Sanjit Rodrigues)
Managing Director

Annexure A-13

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146, ROBINSON ROAD
#05-01 SINGAPORE 068909
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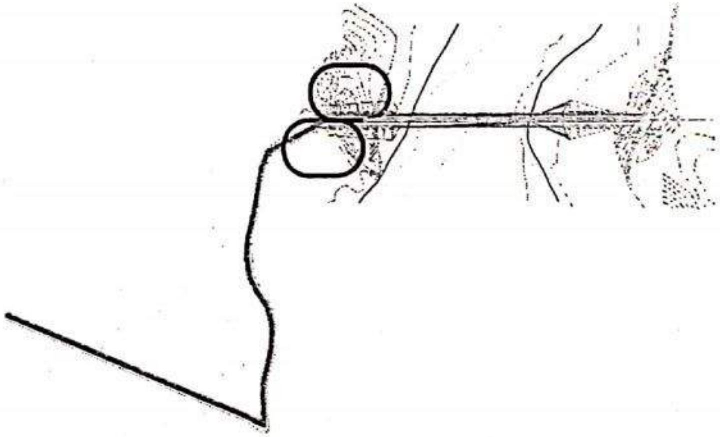
webstruc@webstruc.net

FOUR SEASONS RESORT, GOA, INDIA

PROPOSED TIRACOL BRIDGE - PART OF THE PRELIMINARY REPORT FOR INITIAL COSTING



Date : July 2012
Ref : WEB410/01/MR

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2.0 TOPOGRAPHY, HYDROGRAPHY AND TIDES

3.0 RIVER CROSSING – PRELIMINARY CRITERIA

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5.0 BRIDGE SCHEMES OPTION A (NO PIERS WITHIN RIVER)

6.0 BRIDGE SCHEMES OPTION B (NO PIERS WITHIN NAVIGABLE CHANNEL)

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APPENDIX 2 - SKETCHES ON PROPOSED TIRACOL BRIDGE (SELECTED SCHEMES)

APPENDIX 3 - BRIDGE INITIAL COSTING (SELECTED SCHEMES)

REFERENCES

ADMIRALTY CHART #3464 – PORTS AND ANCHORAGES ON THE WEST COAST OF INDIA

UK Design Standards for Industrial Road - www.eastsussex.gov.uk/.../design_standards_for_industrial_roads.pdf

1. INTRODUCTION

Web Structures have been appointed by Leading Hotels Ltd to carry out front end consultancy on Civil and Structural engineering aspects of the proposed Four Seasons Tiracol Resort in Goa, India. The development comprises a Main Hotel with individual villas/suites, golf course and branded residences which are located around an existing village.

Web Structures have also been appointed by Leading Hotels Ltd to design an access bridge across River Tiracol.

As part of the initial study, a meeting with local authorities to discuss for the bridge was conducted on 07 June 2012 at opposite side of the river to Four Seasons site. Preferred concepts for location, alignment, type of the bridge, and other requirements were discussed during the meeting.

This report summarises the main items relating to the concept and further study of the proposed Tiracol bridge.

This report is PRIVATE & CONFIDENTIAL, and is prepared for the sole use and benefit of our Client, Messrs Leading Hotels Ltd and their agents.

2 TOPOGRAPHY, HYDROGRAPHY AND TIDES

2.1 Topographic information available at the time this Report was prepared is incomplete. Most of the south side has been surveyed,but on the north side less than 50% of the relevant land area has been surveyed. It is assumed the north and south surveys share a common datum and are related to the same coordinate system.

2.2 No hydrographic, water-level or tide information is provided. To enable preliminary bridge schemes to be developed, hydrographic and navigation information as described hereunder is required. Data has been derived from:

i) Admiralty Chart #3464– Ports and Anchorages on the West Coast of India.

ii) Tidal records for Marmagao port (37km south of Tiracol) which is the nearest tide data station we have been able to identify.

2.3 Spring tides occur 3 days after full & new moons. Spring Tides recorded during June 2012 at Marmagao were:

i) Spring Tide height 7 June (Full Moon 4 June) = 2.29m

ii) Spring Tide height 22 June (New Moon 19 June) = 2.09m

2.4 To allow for annual variation of spring tides and for possible variation between Marmagao and the bridge site, Mean High Water Springs (MHWS) for Tiracol River is taken to be 2.5m for preliminary vertical alignment.

2.5 Chart Datum, based on Lowest Astronomical Tide (LAT) is 0.00. It is assumed the topographical data provided is based on the same datum.

2.6 Based on the foregoing, tentative marine contours have been drawn for MHWS, LAT and depth -2.0m. These contours have been used to infer pier locations and bridge spans. Although it is acknowledged that the accuracy of these locations is approximate, the purpose of this report is to compare different bridge concepts, and as a common basis for comparison these marine contours have been used to define spans and pier locations.

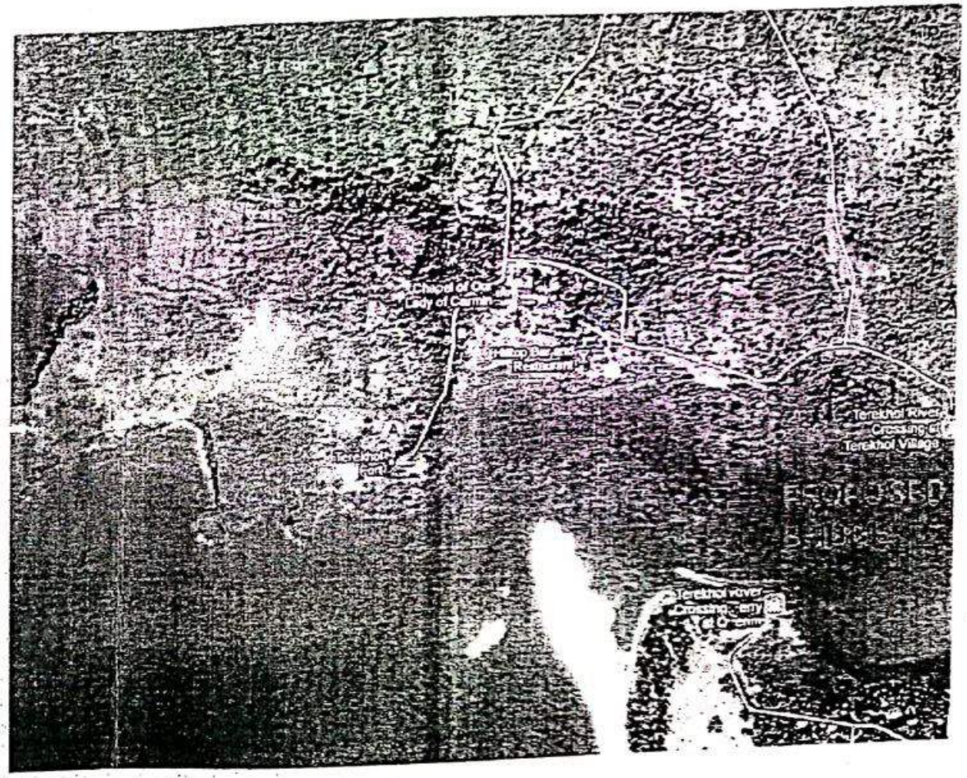


FIGURE 1 : PROPOSED BRIDGE ALIGNMENT

3 RIVER CROSSING – PRELIMINARY CRITERIA

3.1 It is proposed that a new bridge be constructed crossing the Tiracol River. Following are preferred preliminary criteria for this crossing:

i) A north-south alignment starting approx 80m west of existing southern Ferry Terminal Ramp.

ii) Initial highway to provide 7.5m wide 2 lane carriageway. Bridge designs to consider possible widening to accommodate a further 2 lanes in the future.

iii) No piers within the river.

iv) Pier foundations contained within central strip along the highway alignment where possible.

v) Highway Grade limited to 2.5% if possible.

vi) Navigation clearance of 11.8m over a width of 75m to be maintained.

3.2 It should be noted that bridge construction costs increase approximately exponentially in relation to span - reasonably accurate spans should therefore be defined. Criterion 3.1 (i) alignment is approx 40° skew to river direction; defining suitable spans along this alignment requires clarification of above criteria. This Report interprets above criteria as follows:

i) River width varies as the tide changes - Criterion 3.1(iii) "No Piers within River" does not define tide status. This Report assumes river width as mean width at mid tide (average of LAT & MHWS). This interpretation leads to a skew span of approx 200 metres.

ii) This is referred to as Option A "No Piers within River." Three bridge schemes are presented for Option A.

3.3 River width at any stage of the tide includes shallow areas unsuitable for navigation near both shores. It may be difficult to justify bridge costs which are inflated by spanning un-navigable water. A second Option B is therefore presented - "No Piers within Navigable Channel," which leads to more cost-effective bridges, ie:

i) The Navigation Channel defined in Criterion 3.1 (vi) is centred on the deepest part of the Tiracol River (as shown on Admiralty Chart #3464) which flows skew relative to the bridge. To accommodate 75m clear Navigation Channel a bridge span of 105m is required.

ii) Three bridge schemes are considered in this Report complying with Option B: "No Piers within Navigable Channel".

3.4 Further bridge economies could be available if additional piers were permitted within the navigable river width enabling shorter bridge spans. Construction of such a bridge would restrict the Tiracol River mouth compromising access to entire Tiracol estuary. Such designs together with corresponding long-term constraints, are outside the remit of this Report.

3.5 There is an active sandspit to the west of the existing ferry terminal on the south side of the proposed bridge. This can be seen in Figure 1, and in Photo no. 07 (Appendix 1). As the location of this changes throughout the year, it is possible that this might interfere with the navigation channel. This is, however, not reflected in the Admiralty Chart, and as such is ignored in the current study.

4 VERTICAL ALIGNMENT

4.1 Criterion 3.1 (v) requests that vertical alignment be limited to maximum 2.5% grade. While this is technically feasible, the topography requires the alignment to marry into existing road networks which differ by over 35 m in level.

4.2 If maximum 2.5% grade is adopted the south approach embankment for the bridge will extend approximately 450m from proposed south bridge abutment (Option A) requiring significant re-alignment to existing road networks. This will in turn require alignment modifications to associated properties and services.

4.3 Modern highway construction connecting differing levels within restricted chainage frequently adopt grades up to 8%. It is felt that to adopt a shallow grade of 2.5% for proposed Tiracol crossing would create unnecessary collateral damage to the existing infrastructure. Feasibility study on this is presented in Appendix 3.

4.4 In recognition of local topography this Report suggests following maximum grades:

i) The pivot point for vertical alignment is where the bridge soffit passes the river southern navigation clearance. Bridge structural depth raises corresponding highway levels.

ii) Basing on a grade of 4.5% together with bridge structural depth necessary for all but Scheme B-3, alignment with existing north shore highway is straightforward. However this grade would necessitate an embankment of approximately 250m at the southern approach.

iii) For Scheme B-3, having shallower structural depth, a grade of 5% is proposed for the southern approach which shortens the embankment length (measured from south abutment) to approximately 90 meters.

4.5 This Report considers six possible bridge options – at this preliminary stage these options are compared based on a maximum grade towards the north of 4.5%..

4.6 For initial costing purpose, only three schemes are presented in this Part of the Preliminary Report as per the client's selection.

5 BRIDGE SCHEMES: OPTION A - NO PIERS WITHIN RIVER

5.1 Scheme 1: Cable-Stayed Bridge

Details are in the full report.

5.2 Scheme 2: Basket Arch Bridge

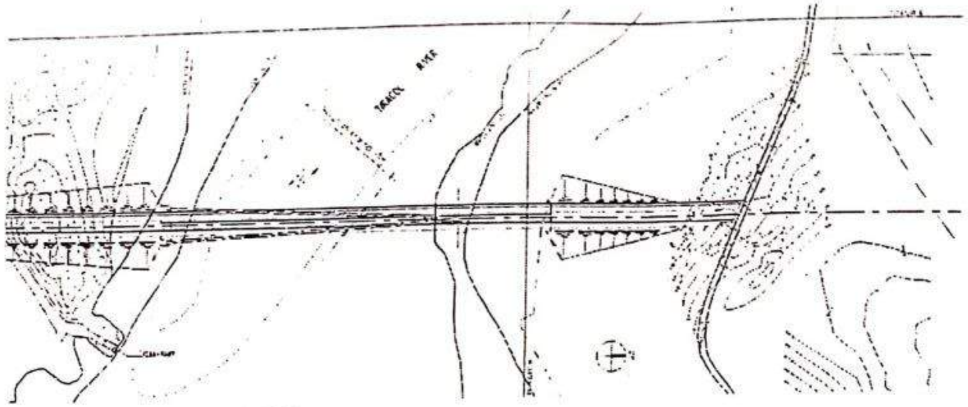
Details are in the full report.

5.3 Scheme 3: Scissor Arch Bridge

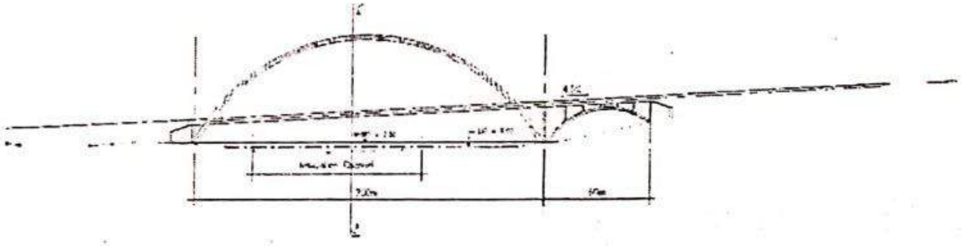
5.3.1 Scheme 3, a unique Scissor Arch Bridge, is similar in elevation to the Basket Arch proposed in Scheme 2. In Scheme 3 however, the arch ribs are brought to a single central foundation at the main north support in order to comply with Criterion 3.1 (iv). The arch ribs are splayed outward in plan towards the south, resting on foundations which are external to the roadway at the south abutment.

5.3.2 By splaying the arch in plan as proposed, the Scissor Arch concept provides seismic stability. Construction cost will nevertheless be increased relative to Scheme 2 on account of more complex fabrication with less repetition.

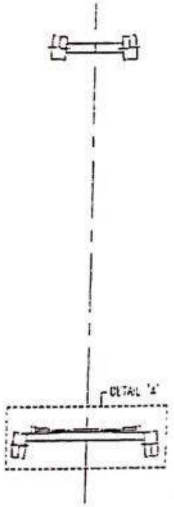
5.3.3 By introducing a central support at the north shore, the roadway has to be split into two separate carriageways similar to Scheme 1. The overall area of a twin carriageway is slightly greater than for Scheme 2, at 3250 sq metre.



OPTION A - SCHEME 3 - PLAN VIEW



OPTION A - SCHEME 3 - ELEVATION VIEW



OPTION A - SCHEME 3 - SECTION

6 BRIDGE SCHEMES: OPTION B - NO PIERS WITHIN NAVIGABLE CHANNEL

6.1 Scheme 1: Precast Balanced Cantilever Bridge

6.1.1 To bridge Tiracol river navigable channel requires a main span of 105m. The most efficient concept for bridges in this span range is to extend the overall bridge length and adopt multi-span continuous balanced cantilever construction. A reasonable distribution of bending moments would be obtained using a 5 span symmetrical bridge: 60m, 91m, 105m, 91m & 60m. These spans lend themselves to precast construction based on repetitive segments 4m deep by 3.32m long with 400mm mid-span stitches. There are hundreds of bridges worldwide using similar concept, for example the 2nd Friendship Bridge across the Mekong River between Laos and Thailand.

6.1.2 This form of construction does not require falsework or temporary supports as cantilevers are constructed using an overhead erection gantry, which transports and installs successive precast segments. Initially a special pier segment is installed then successive segments are erected left and right of each pier, balancing the dead weight, leaving a small gap (stitch) near mid-span which is completed using insitu concrete. Continuity prestress is finally threaded through the bridge and stressed from within.

6.1.3 Once a precasting yard is ready, segments can be concreted and installed very quickly, making this one of the most efficient forms of construction. Additionally, the quality of surface finish is of highest standard on account of precasting technology.

6.1.4 It would be straightforward to widen a balanced cantilever bridge (Criterion 3.1 ii) - a second pier and similar bridge can be constructed alongside whenever this is required. At this preliminary stage, a single 7.5m carriageway is proposed with single 1.5m footway on one side – on widening, this highway arrangement would be mirrored.

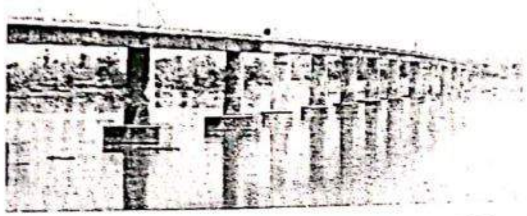
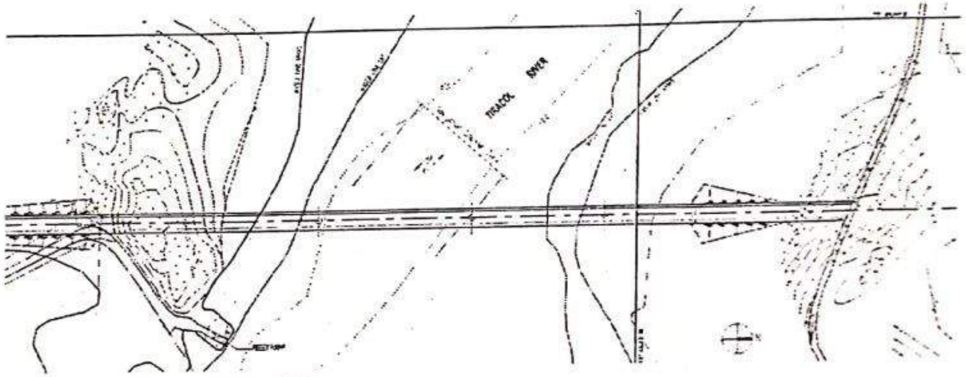
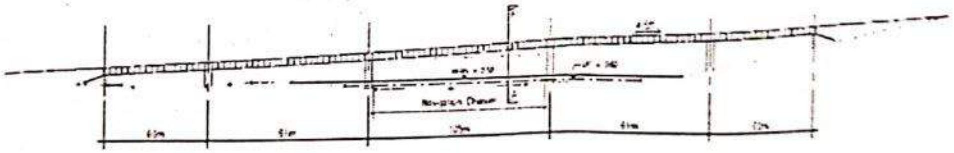


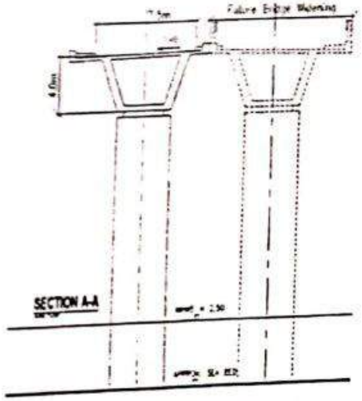
FIGURE 5 : THE SECOND THAI-LAO FRIENDSHIP BRIDGE



OPTION B - SCHEME 1 - PLAN VIEW



OPTION B - SCHEME 1 - ELEVATION VIEW



OPTION B - SCHEME 1 - SECTION

6.2 Scheme 2: Insitu Balanced Cantilever Bridge

Details are in the full report.

6.3 Scheme 3: M Beam Viaducts with Steel Arch Main Span

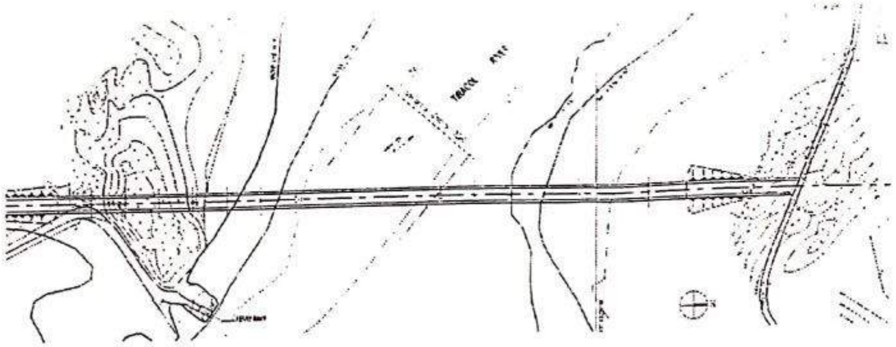
6.3.1 For spans up to 25m, construction using precast pretensioned M Beams will be most competitive. In order to minimise the cost of bridge construction this method is adopted for the approach viaducts associated with Scheme B3, extending the overall bridge length to 455m (14 spans at 25m + 105m main span).

6.3.2 It is considered that the least expensive method of construction for the 105m main navigation span, would involve a simple steel tied arch with concrete deck. A self-contained basket arch concept is proposed for this span.

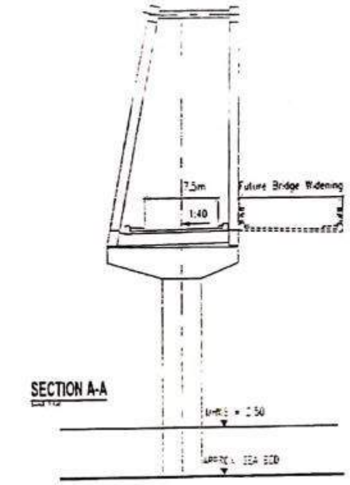
6.3.3 Both the main span and M Beam viaducts can be restricted to structural depth of 1.5m between roadway and bridge soffit. This lowers the vertical alignment reducing the length of south approach embankment to approximately 90m (from the abutment) but increasing the northward grade to 5%.

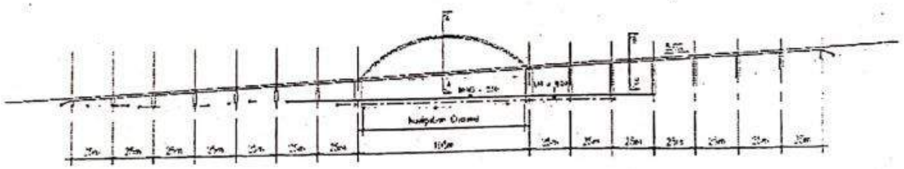
6.3.4 It would be straightforward to widen the M Beam viaducts (Criterion 3.1 ii), by building a second pier and similar bridge alongside whenever this is required. To widen the main span would require an additional arch rib – to accommodate this, the initial design shows an asymmetric arch in section.

6.3.5 At this preliminary stage, a single 7.5m carriageway is proposed with single 1.5m footway on one side – on widening, this highway arrangement would be mirrored.

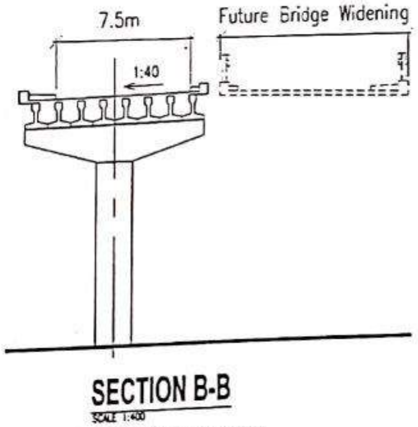


OPTION B - SCHEME 3 - PLAN VIEW





OPTION B - SCHEME 3 - ELEVATION VIEW



OPTION B - SCHEME 3 - SECTION

7 CONCLUSIONS AND FOLLOW UP

7.1 This report presents the conceptual studies carried out by Web Structures on various options for the proposed bridge across the River Tiracol.

7.2 The main purpose of this report is to enable the client to decide on the option they prefer to be progressed into the detailed design stage.

7.3 The current study is based on a number of assumptions. These are noted in the body of the report. Before any further work is undertaken accurate survey and tide information must be obtained, both for topographic and hydrographic, together with confirmation that common datum levels are adopted for each survey.

7.4 Following information is also required for further design considerations:

- Loading clarification as to whether design should adopt IRC Class AA Loading.
- Highway design speed.
- Preferred option, as presented in this report.
- Any standard details, or special details and considerations required by the local/ statutory authorities with jurisdiction over the bridge design and detailing.

APPENDIX 1 –
PHOTOGRAPHS OF PROPOSED BRIDGE SITE

Scanned with CamScanner

WEB STRUCTURES

PHOTOGRAPHIC RECORD	Job No: WEB 410	By: NES	Date: 06-07-2012

Project Title: **PROPOSED TIRACOL BRIDGE - FOUR SEASONS RESORT IN GOA, INDIA**

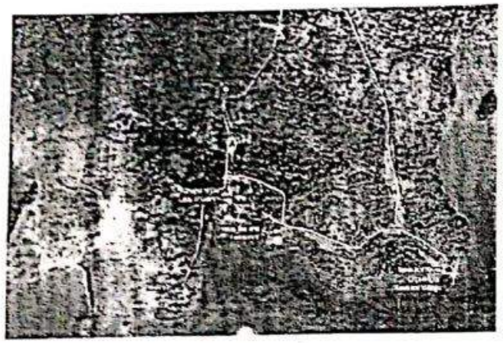


Photo No: 01
Location : Ferry landing on north shore
Notes: Location plan for photo no. 2

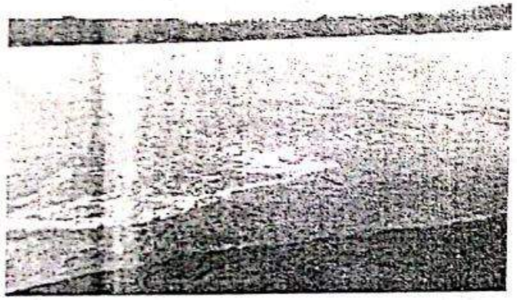


Photo No: 02
Location : Ferry landing on north shore
Notes: The view facing south

WEB STRUCTURES

PHOTOGRAPHIC RECORD	Job No : WEB 410	By: NES	Date: 06-07-2012

Project Title: **PROPOSED TIRACOL BRIDGE - FOUR SEASONS RESORT IN GOA, INDIA**

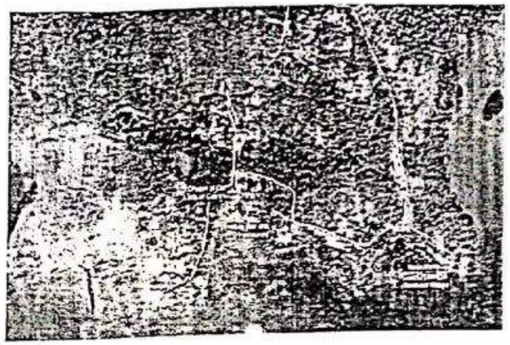


Photo No: 03
Location : Ferry landing on north shore
Notes: Location plan for photo no. 4

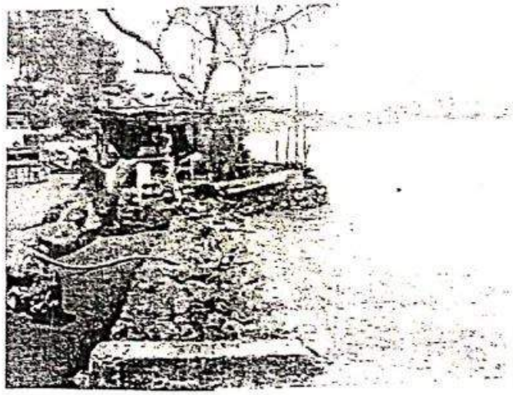


Photo No: 04
Location : Ferry landing on north shore
Notes: The view facing east

WEB STRUCTURES

PHOTOGRAPHIC RECORD
Job No: WEB 410
By: NES
Date: 06-07-2012

Project Title: PROPOSED TIRACOL BRIDGE - FOUR SEASONS RESORT IN GOA, INDIA

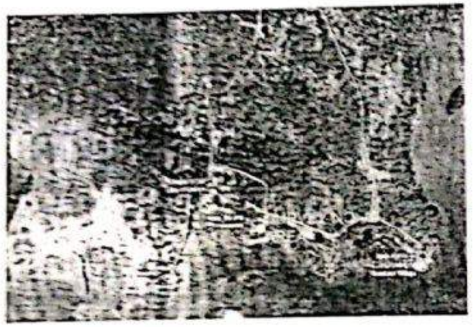


Photo No: 05
Location : On north side –survey no. 15
Notes: Location plan for photo no. 6

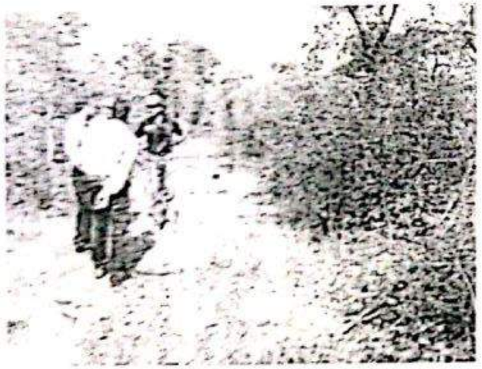


Photo No: 06
Location : On north side –survey no.15
Notes: Bridge positioning at Four Seasons side

WEB STRUCTURES

PHOTOGRAPHIC RECORD
Job No: WEB 410
By: NES
Date: 06-07-2012

Project Title: PROPOSED TIRACOL BRIDGE - FOUR SEASONS RESORT IN GOA, INDIA

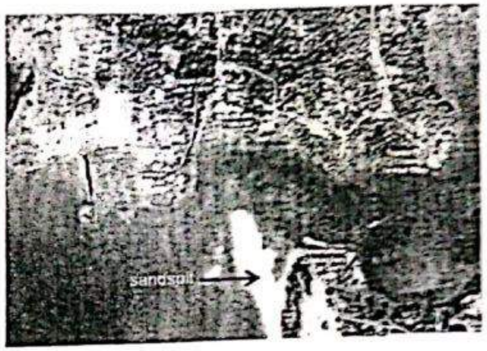


Photo No: 07
Location : Opposite side (south shore)
Notes: Location plan for photo no. 8
Note also sandspit to the west of the Querim Ferry Terminal

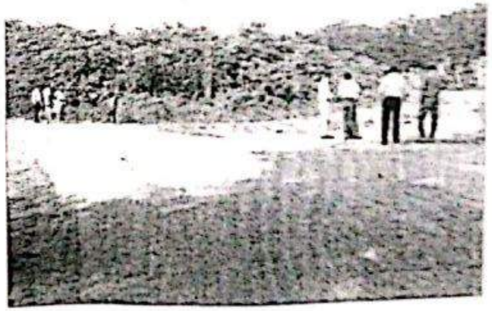


Photo No: 08
Location : Opposite side (south shore)
Notes: Bridge positioning at opposite side (south shore)

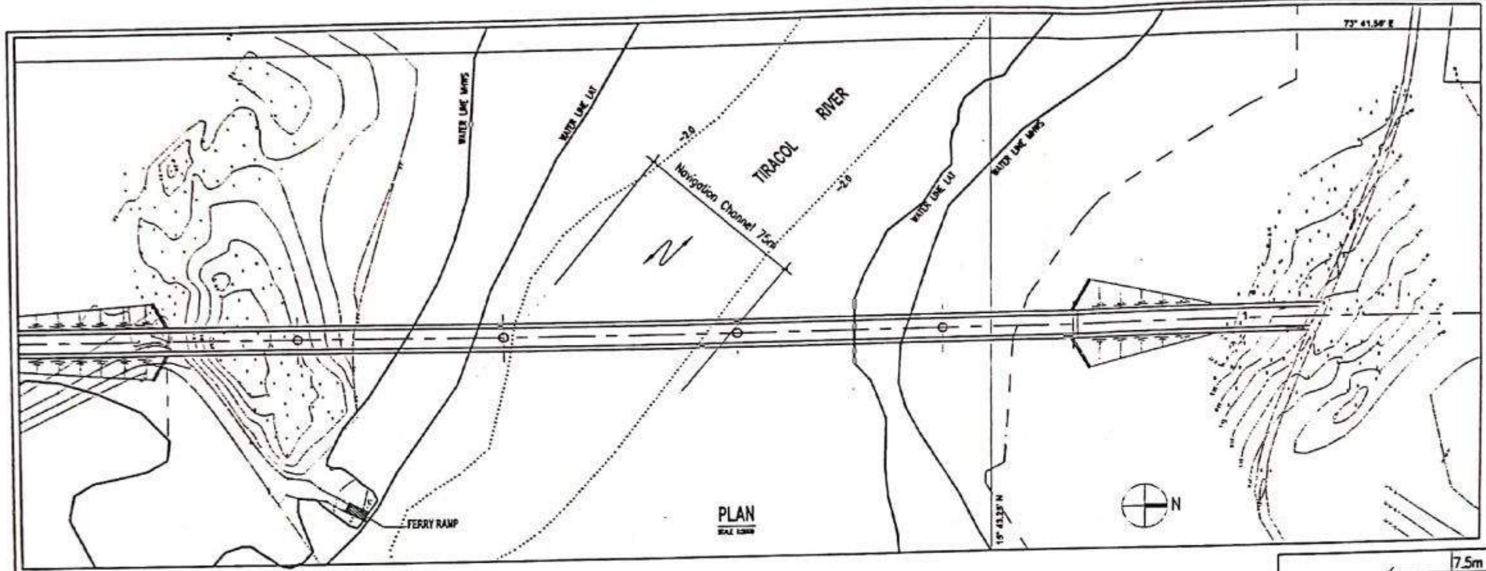
APPENDIX 2 –
SKETCHES ON PROPOSED TIRACOL BRIDGE (SELECTED SCHEMES)

7

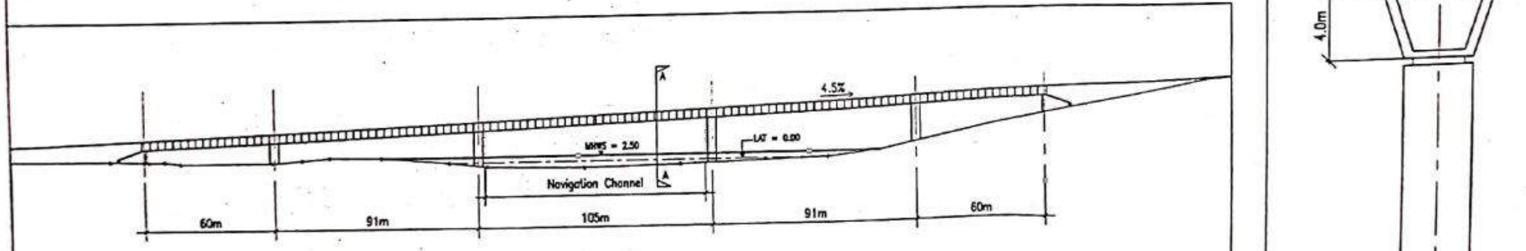
Project

FOUR SEASONS RESORT: PROPOSED TIRACOL BRIDGE
OPTION B : NO PIERS WITHIN NAVIGABLE CHANNEL
SCHEME 1 : PRECAST BALANCED CANTILEVER BRIDGE

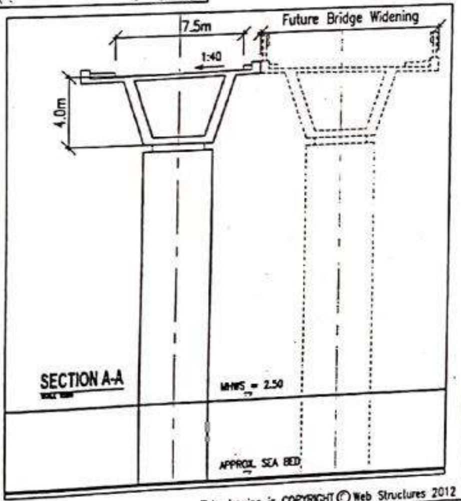
Job No. :	410
Sketch No. :	SK.08
Date :	04.07.12
By :	MCR/TTH


73° 41.56' E
WATER LINE MHWS
WATER LINE LAT
-2.0
TIRACOL RIVER
Navigation Channel 75m
-2.0
WATER LINE LAT
WATER LINE MHWS
FERRY RAMP
15° 43.23' N
N

PLAN


A
4.5%
MHWS = 2.50
LAT = 0.00
Navigation Channel
A
60m
91m
105m
91m
60m

ELEVATION


7.5m
Future Bridge Widening
1:40
4.0m
MHWS = 2.50
APPROX. SEA BED

SECTION A-A

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C/35

APPENDIX 3 –
BRIDGE INITIAL COSTING (SELECTED SCHEMES)

1. Option A, Scheme 3: Scissor Arch Bridge

1.1. Basic cost and geometry:

(i) Unit cost - similar construction & span
= ____________________/sqm
(ii) Length of Bridge
= 260 m
(iii) Width of bridge
= 12.5m
(iv) Area of bridge deck
= 3250 sq m

1.2. Approximate bridge construction costs:

(i) Structure:
(ii) Approach embankment (195m):
(iii) Preliminaries & Contingency (15%):
____

(iv) Estimated Budget Cost:

2. Option B, Scheme 1: Precast Balanced Cantilever Bridge

2.1. Basic cost and geometry:

(i) Unit cost - similar construction & span
= ____________________/sq m
(ii) Length of Bridge
= 407 m
(iii) Width of bridge
= 10.5m
(iv) Area of bridge deck
= 4274 sq m

2.2. Approximate bridge construction costs:

(i) Structure:
(ii) Approach embankment (48m):
(iii) Preliminaries & Contingency (15%):
____

(iv) Estimated Budget Cost:

3. Option B, Scheme 3: M Beam Approach viaducts with Basket Arch main span

3.1. Basic cost and geometry – M Beam via ducts:

(i) Unit cost - similar construction & span
= ____________________/sq m
(ii) Length of Bridge
= 350 m
(iii) Width of bridge
= 10.5m
(iv) Area of bridge deck
= 3675 sq m

3.2. Basic cost and geometry – Basket arch main span:

(i) Unit cost - similar construction & span
= ____________________/sq m
(ii) Length of Bridge
= 105 m
(iii) Width of bridge
= 10.5m
(iv) Area of bridge deck
= 1103 sq m

3.3. Approximate overall bridge construction costs:

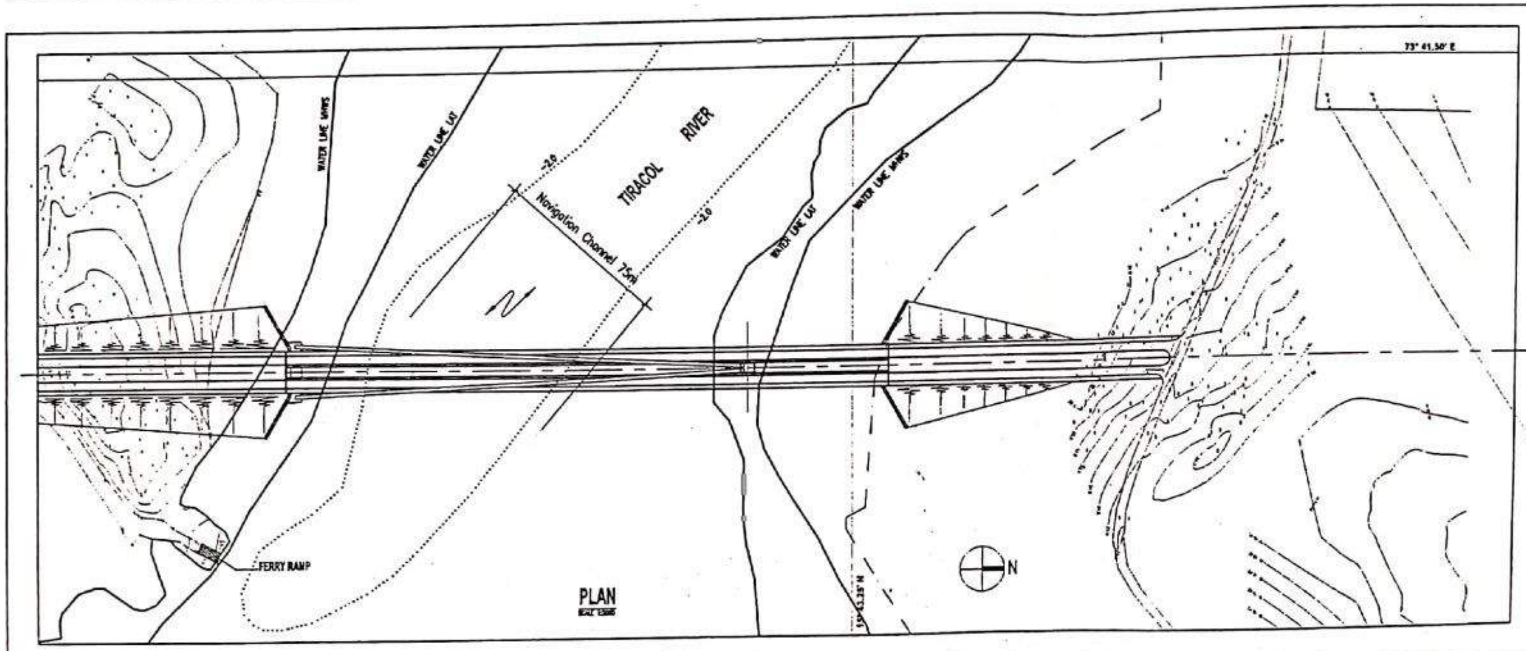
(i) M Beam viaduct structure:
(ii) Arch structure:
(iii) Preliminaries & Contingency (15%):
____

(iv) Estimated Budget Cost:

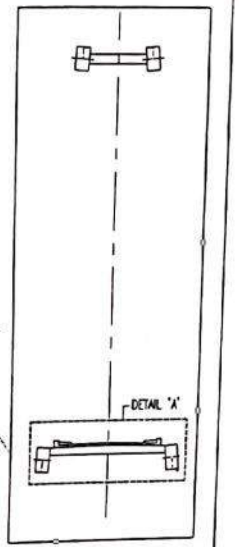
Project :

FOUR SEASONS RESORT: PROPOSED TIRACOL BRIDGE
OPTION A : NO PIERS WITHIN RIVER
SCHEME 3 : SCISSOR ARCH BRIDGE

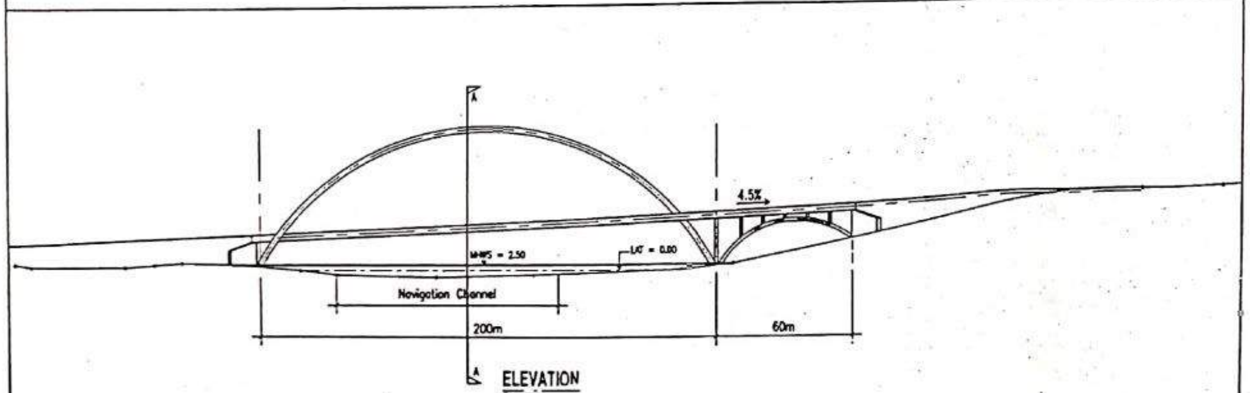
Job No	410
Sketch No. :	SK 07
Date :	04.07.12
By :	MER/TT


73° 41.50' E
WATER LINE MHWS
WATER LINE LAT
-2.0
Navigation Channel 75m
TIRACOL RIVER
-2.0
WATER LINE LAT
WATER LINE MHWS
FERRY RAMP
N
15° 43.25' N

PLAN



SECTION A-A


A
4.5%
MHWS = 2.50
LAT = 0.00
Navigation Channel
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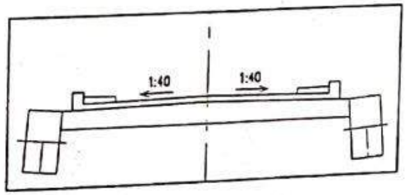
60m
A

ELEVATION



DETAIL 'A'

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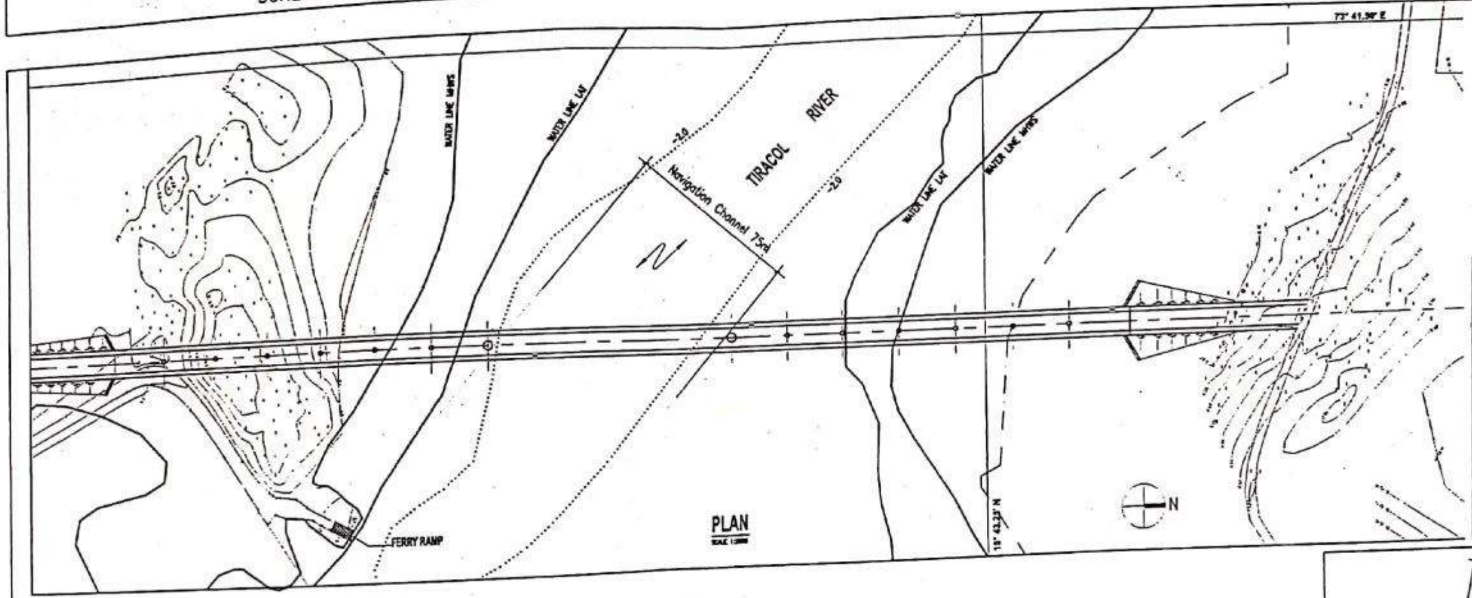
c/32

Job No. :	410
Sketch No. :	SK.10
Date :	04.07.12
By :	MCR/TTH

Project :

FOUR SEASONS RESORT: PROPOSED TIRACOL BRIDGE
OPTION B : NO PIERS WITHIN NAVIGABLE CHANNEL
SCHEME 3 : ARCH MAIN SPAN + M-BEAM APPROACH VIADUCTS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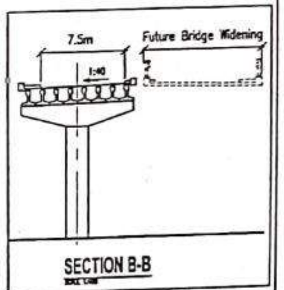
-2.0
WATER LINE MHWS
WATER LINE LAT
FERRY RAMP
15° 43.33' N
N

PLAN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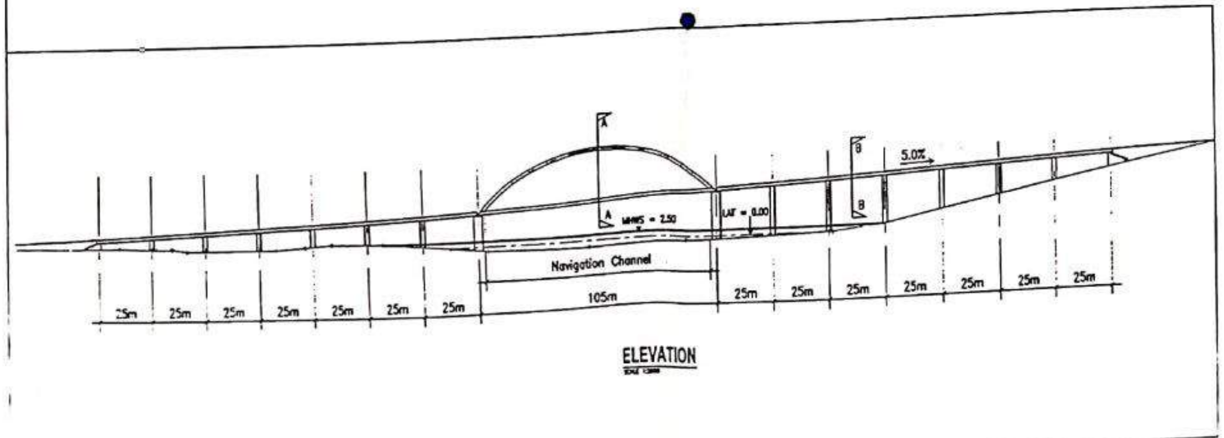
Future Bridge Widening
1:40

SECTION B-B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B
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Navigation Channel
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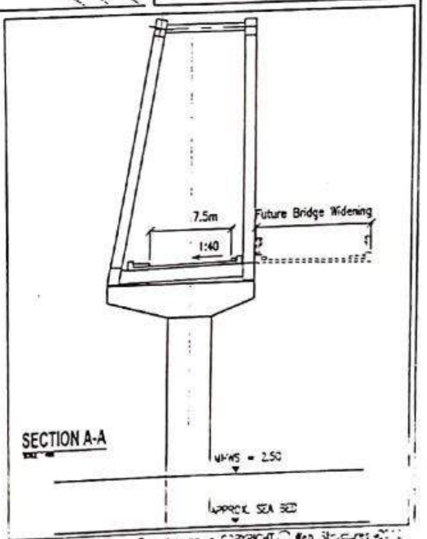
105m

ELEVATION


7.5m
Future Bridge Widening
1:40
MHWS = 2.50
APPROX. SEA BED

SECTION A-A

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74

Annexure A-14

ANNEX. 15

Inward No 4735
Date : 7/8/12
GSIDC LIMITED

LEADING HOTELS LTD.

Ref: LHL/GSIDC/08/12/0017

7th August, 2012

Mr. Sanjit Rodrigues
Managing Director
Goa State Infrastructure Development Corporation Limited
7th Floor, EDC House,
Panaji, Goa 403 001

CE-II

Sub: Bridge connecting Keri to Tiracol across Tiracol River

Sir,

This is with reference to your letter dated 13th June, 2012 with regard to the Bridge connecting Keri to Tiracol over Tiracol River.

Our designers, Web Structures- Singapore have sought clarification on the following to proceed further with the design development in order to keep costs of the proposed development within prescribed limits:

a. Gradient – what is the permissible maximum gradients for the "bridge" as well as for the "approach roads" on either sides of the river. A 3% maximum gradient as informed to us during our site visit will require a length of over 1,300m for the level difference of approximately 40m. It is our opinion that 3% limit applies to the suspended bridge as well as to the approach roads.A gradient of 3% is far too stringent for an economical design for a bridge which has to connect two existing points with some 40m or so level difference, and providing a clear navigation channel.

b. As per norms of the Ministry of Surface Transport a minimum vertical clearance of 10 meters from the highest recorded flood level and minimum Horizontal Clearance of 100 meters between two piers of the bridge is expected to be maintained over the waterways. This needs to be confirmed

Also if power cables are proposed to be taken through the bridge, the following norms shall apply:

- Low Voltage Transmission line -	16.5 meters
- High Voltage Transmission line-	19.0 meters

A copy of the letter obtained from the Captain of Ports is attached for your reference.

c) The design of the junction between the bridge and existing road depends on traffic for this area. As traffic increases junction design changes from simple T-junction, to roundabout, to traffic lights to grade-separated junction. Therefore, traffic forecasts are required.

C/16

LEADING HOTELS LTD.

A transportation plan needs to be established which would entail:

1 Build regional Traffic Model to establish traffic forecasts from existing demographic/urban/rural/industrial populations. As a guideline the proposed bridge would draw a significant proportion of traffic from the recently completed Tiracol bridge (3km east of Tiracol- Kiranpani bridge).
2 Add expected traffic from/to the proposed Golf Course
3 Normal growth patterns would then be added to Traffic Model to determine expected usage of bridge in 5, 10, 20 years, etc.
4 Based on the foregoing: lane sizes, design speeds, grades, junction layouts etc would be provided.

We would request you to provide clarification to the above items at the earliest.

Thank you,

Yours Faithfully
For Leading Hotels Ltd.

Ravi

P. Ravi
General Manager Projects

Encl : Letter of Ministry of Surface Transport

Annexure A-15

ANNEX 16

C/25

C/20

CE-II

LEADING HOTELS LTD.

Ref: LHL/COP/07/12/0004.

To,

The Captain of Ports.

Government of Goa,

Panaji –Goa-403001

Inward No 5860
Date : 11/9/12
G S I D C LIMITED

Dated: 11th August 2012

Sub: Permission to undertake Hydrographic Survey at the mouth of the River Tiracol locality.

Sir,

With reference to the letter dated 16th July 2012 for Permission to undertake Hydrographic Survey at the mouth of the River Tiracol locaility, we would again seek your kind permission to conduct the survey on 17th September 2012 as suggested by the Department.

M/S HAM Surveyors have been awarded the contract to undertake the above survey. This Survey has been undertaken since GSIDC has instructed us to conduct the same for their official purpose of constructing a Bridge across the River Tiracol.

We will conduct the above Survey by utilizing the Boat bearing registration number CHP/1345/IC. The owner of the Boat is Mr. Anand Parab of Keri Village. A copy of the registration is enclosed for your reference.

We await your kind statutory approval and further directions.

Thanking you,

Yours Faithfully

For Leading Hotels Ltd.

Ravi

P.Ravi

General Manager- Projects.

Cc to Managing Director- GSIDC.- For information.

Annexure A-16

Web Structures Builds Bridge to a Brighter Future

Press Release: Web Structures – Tue, May 28, 2013 9:43 PM AEST

Singapore, May 28, 2013 - (ACN Newswire) - Web Structures Pte Ltd, one of the world's leading exponents of environmentally-aware engineering, has taken on a tough new challenge in Goa, Western India.

The Singapore and London-based firm, which has a strong track record in engineering projects, is assisting the Jatia Group to developing a high end luxury resort to be operated by the iconic Toronto headquartered Four Seasons Hotels and Resorts.

Web Structures is ensuring that the development would have minimal environmental impact without causing any negative impact on neighbouring communities.

Global architecture practice WAT&G is the master planner and architect designing the resort, which includes an 18 hole Professional Golf Association (PGA) accredited golf course being designed by British golf legend Colin Montgomerie. London-based design firm 1508 London is also designing a number of stunning private villas for long stay guests as part of the master plan for the development.

As part of the development, Web Structures is designing a stunning 500 metre road and pedestrian bridge crossing the Tiracol River which will be one of the most picturesque in Goa which will form a new transport link between the neighbouring states of Goa and Maharashtra.

The engineering challenge is to build the long-span bridge without touching the water and allowing boats and yachts to pass underneath. Further engineering challenges include a 40 metre difference in height between the banks of the river and the type of ground the bridge's foundations will have to be laid on.

However, Web Structures' track record in creating tourist resorts in ecologically sensitive environments, such as the Seychelles, has provided the confidence that this resort can be beneficial to tourism and the local economy and have a minimal impact on the local eco-system.

Web Structures is supportive of the environmental initiative that the Group has taken in this regard to make this development LEED gold accredited. In this regard, the team is also working on optimising rain harvesting for the development, due to limited rainfall which takes place mainly in the monsoon season and reuse surface and golf course run- off besides re-using treated waste water in various parts of the development.

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Dr Hossein Rezai, Web Structures group director, said: "One of the main challenges of this project is working in such a way that the existing community is not disturbed by its new neighbour. It is about striking the right balance. We do not want to disturb the village and its people who work the local land and fish the waters.

"The idea is that the resort can enhance the livelihoods of the people living there. That is the challenge that has been set for us; it is about enhancing and not destroying. We are working at the moment to create designs that meet all the environmental requirements."

About Web Structures

Web Structures Pte. Ltd. is a pioneer in "fusion engineering"; fusing design sensitivity with cost consciousness to develop the most cost effective structures in which the traditional separation between architectural design aesthetics and structures is erased in a seamless harmony of design intent. In the completed work, architecture and structure resonate to create a single entity; an essential symbiotic interaction, a fusion that presents itself in works of beauty.

Employing divers talent from the UK, Europe and Asia, Web Structures provides worldwide design consultancy at the highest end of the international spectrum. With offices in Singapore, Malaysia, Shanghai, London and Indonesia, the civil, structural and geotechnical practice also offers specialist design services in related engineering fields. For more information about the company, please visitwww.webstruc.net.

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Annexure A-17

Government of Goa,
Captain to Ports Department,
Panaji, Goa, 403 001.

CP/HSO/203

Dated: 12th. August, 2013.

INSEPCTION REPORT

Subject: **Proposed Construction of a new bridge by GSIDC across river Tiracol in between Village Keri and Village Tiracol, regarding...**

References: 1. Letter No. GSIDC/Engg/Works/854/2186 dated 16th July, 2013.
2. This office letter No. CP/HSO/204/2457 dated 22nd. July, 2013.

This has reference to the above.

A joint site inspection was conducted by the undersigned along with Shri. Shailesh Naik, Assistant General Manager, from M/s. S. N. Bhobe & Associates, representing Goa State Infrastructure Development Corporation Limited, on Friday, the 2nd. August, 2013.

During this inspection, the inspection team visited the proposed bridge alignment site at Village Tiracol side, first. This site is about a distance of say **327.296** Metres towards the West from the existing Ferry Ramp at Village Tiracol side and is situated on the hillock.

It is pertinent to mention here that in view of the existing topographical features, i.e. in the presence of the hill on the Tiracol Village side towards the Northern side of the river, the bridge is said to have been designed with a gentle slope descending towards the south towards Village Keri side and the Vertical Clearance of say 41.659 Metres (Approximately) is provided at Village Tiracol side and the Vertical Clearance of say 15.495 Metres (Approximately) is provided at Village Keri side and a single Navigation Span will be provided with a Vertical Clearance of 28.576 Metres (Approximately) above the Highest Flooding Level and the Horizontal Clearance of say 200.00 Metres (Approximately) from fender to fender.

The inspection team subsequently visited the Village Keri side. The site of the bridge alignment at Village Keri side is say at a distance of 125.308 Metres towards the West from the existing Ferry Ramp at Village Keri.

The total length of the bridge across the Tiracol river from bank to bank in between Village Tiracol side to Village Keri side excluding its approaches will be say 585.0 Metres approximately.

G.S.I.D.C.Ltd. has submitted the General Arrangement Drawing (G.A.D.) in duplicate and it is observed that three in number piers are going to come up in the river. They have provided a single Navigational span with a Horizontal Clearance of 200.0 Metres from fender to fender., in between *Pier No. 9 and Pier No. 10* will be erected towards the Northern Half of the river towards Village Tiracol side. While the Pier No. 11 will be erected in the river,in between Pier No. 10 and r the river banks.

During this inspection, it was observed that there are scanty movement of motorised canoes / country crafts in and around the vicinity of the proposed bridge construction site.

In concluding, it is submitted that we may not raise any objections for the construction of the proposed new bridge across river Tiracol, in between Village Tiracol and Village Keri, by Goa State Infrastructure Development Corporation Limited, if the Captain of Ports, agrees.

Submitted to the Captain of Ports for kind information and approval, please.

12 Aug. 2015

(Sagar Chandra Rai)
Hydrographic Surveyor

Annexure A-18

BEFORE THE NATIONAL GREEN TRIBUNAL, WESTERN ZONE BENCH, PUNE

APPLICATION NO.33/2015 (WZ)
Goa Foundation V/s. GEIAA & Ors

CORAM: HON'BLE MR JUSTICE V.R. KINGAONKAR, JUDICIAL MEMBER
HON'BLE DR. AJAY A. DESHPANDE, EXPERT MEMBER

Present: Appellant : Norma Alvares Adv a/w
Supriya Dangare Adv.
Respondent Nos.3,4 : Mr. Dattaprasad Lawande Adv

Date and Remarks	**Orders of the Tribunal**
Item No. 16 **April 17, 2015** **Order No.2**	Heard. The Applicant has placed on record affidavit along with the photograph. Learned Advocate for the Applicant would submit that now the changes are being made on account of proposed construction of bridge on spit at Querim. The spit is, therefore, elongated. The factual position is disputed by learned Advocate Mr. Dattaprasad Lawande, appearing for the State. By applying the 'Precautionary Principle' and in order to avoid any further changes in the status of the area on spit at Querim, particularly, which may cause changes in tidal waves/currents and the status of estuarine area, which allegedly may narrow down mouth of the river, no further work be carried out at the said place (i.e. Pillar No.6). The previous order regarding '*status quo*' to continue, as regards construction on Teracol side in respect of bridge. We direct the State to seek report of the Central Water Power Research Station (CWPRS), Pune, or NIO, Goa or NIOT, Chennai, regarding environmental impacts on the estuarine area, particularly, on the spit of Keri (Pillar No.6) and particularly regarding changes, if any, caused as a result of construction activity in the tidal water activity, or changes of estuarine areas, due to adverse impact of construction put in or that construction of Pillar No.6, is likely to influence the tidal movements of water of river whatsoever it may be. We make it clear that the said Institute shall assess the fact position and consider all aspects required to be covered in the study considering the points raised by the Applicant. The report shall be prepared and called at the cost of GSIDC-Respondent No.3, and copy of this order be immediately served on the Director of CWPRS, Pune, or NIO or NIOT, by the Applicant and learned Advocate appearing for the State. Choice of getting work done is with the Respondent No.3. The report shall be expedited and not

Item No. 16 **April 17, 2015** **Order No.2**	delayed due to non-payment of required cost estimates by the Institute. The report shall be made available within four (4) weeks and shall be directly sent to the Registrar, NGT (WZ) Bench Pune in sealed envelope. All the issues are kept open. **S.O. to 25th May, 2015.** ……………………………………………, **JM** **(Justice V. R. Kingaonkar)** ……………………………………………, **EM** **(Dr.Ajay A. Deshpande)**

Annexure A-19

GSIDC
Cornerstone of Goa's Future

(BY REGISTERED A.D. / SPEED POST)

Ref.: GSIDC/Engg/Works/854/1744

24th June 2015

LETTER OF ACCEPTANCE / WORK ORDER

To

The Director
National Institute of Ocean Technology
Valacherry-Tambaram, Main Road,
Narayanapuram,Pallikaranai,
Chennai, Tamil Nadu – 600 100

Kind Attn.: Dr. K.M.Sivakholundu, Coastal Engineering Department

Sir (s),

Sub: ***"Design and Construction of Bridge connecting Keri to Tiracol over river Tiracol including approaches – Study of Hydrodynamics and morphological change at Tiracol Estuary".***

Ref:
1) ***Our letter no. GSIDC/Engg/Works/854/1163 dated 1st June 2015.***
2) ***Your proposal bearing no. nil dated 4th June 2015***

1. With reference to the Project proposal submitted vide your letter cited at (2) above, the offer of Rs.40.25 lacs (Rupees Forty Lacs Twenty Five Thousand only) plus service tax (at prevailing rates) is hereby accepted for carrying out the Study of Hydrodynamics and Morphological change at Tiracol Estuary for the project of ***"Design and Construction of Bridge connecting Keri to Tiracol over river Tiracol including approaches"*** as per the scope of work stated below:-

   a) Tide Measurements especially at the two pylon locations.
   b) Current measurements, Wave measurements, river discharge, bathymetry, etc.
   c) Shoreline mapping for both side of river bank at the two pylon locations.
   d) Hydrodynamics, wave and sediment transportation to evaluate the flow condition with and without the presence of bridge pylons.
   e) Any other measurement/study which the NIOT, Chennai feels necessary for the completion of report.

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2. The schedule of payment shall be as stated below:-

Installment	Amount (Rs.)	Mode
1st	Rs. 20.125 lakhs	Advance payment - To be paid on issue of work order
2nd	Rs. 16.10 lakhs	On completion of field data collection
3rd	Rs.4.025 lakhs	On submission of final report
Total	**Rs.40.25 lakhs** (excluding service tax)	

3. The total duration for carrying out the services shall be 2 **months** after the collection of field data. The report of the study shall be directly submitted to the Registrar, Hon'ble National Green Tribunal, (WZ) Bench, Pune in sealed envelope under intimation to this office.

4. You are requested to contact the project consultant M/s. S. N. Bhobe & Associates Pvt. Ltd. Mumbai for seeking any additional information or data pertaining to the project.

5. The expense of any site visits/ review meetings, stay, travel, etc. if required shall be borne by you and no reimbursement shall be claimed.

6. Please note that the time allowed for carrying out the services shall be reckoned immediately from the date of issue of work order.

Thanking you,

Yours faithfully,

(Sanjit Rodrigues)
Managing Director

Copy to: 1. **M/s. S. N. Bhobe & Associates Pvt. Ltd.** - For information
Banking Complex No.II,
Unit No.10, Plot No.9 and 10,
Section 19-A,
Vashi, Navi Mumbai – 400 705

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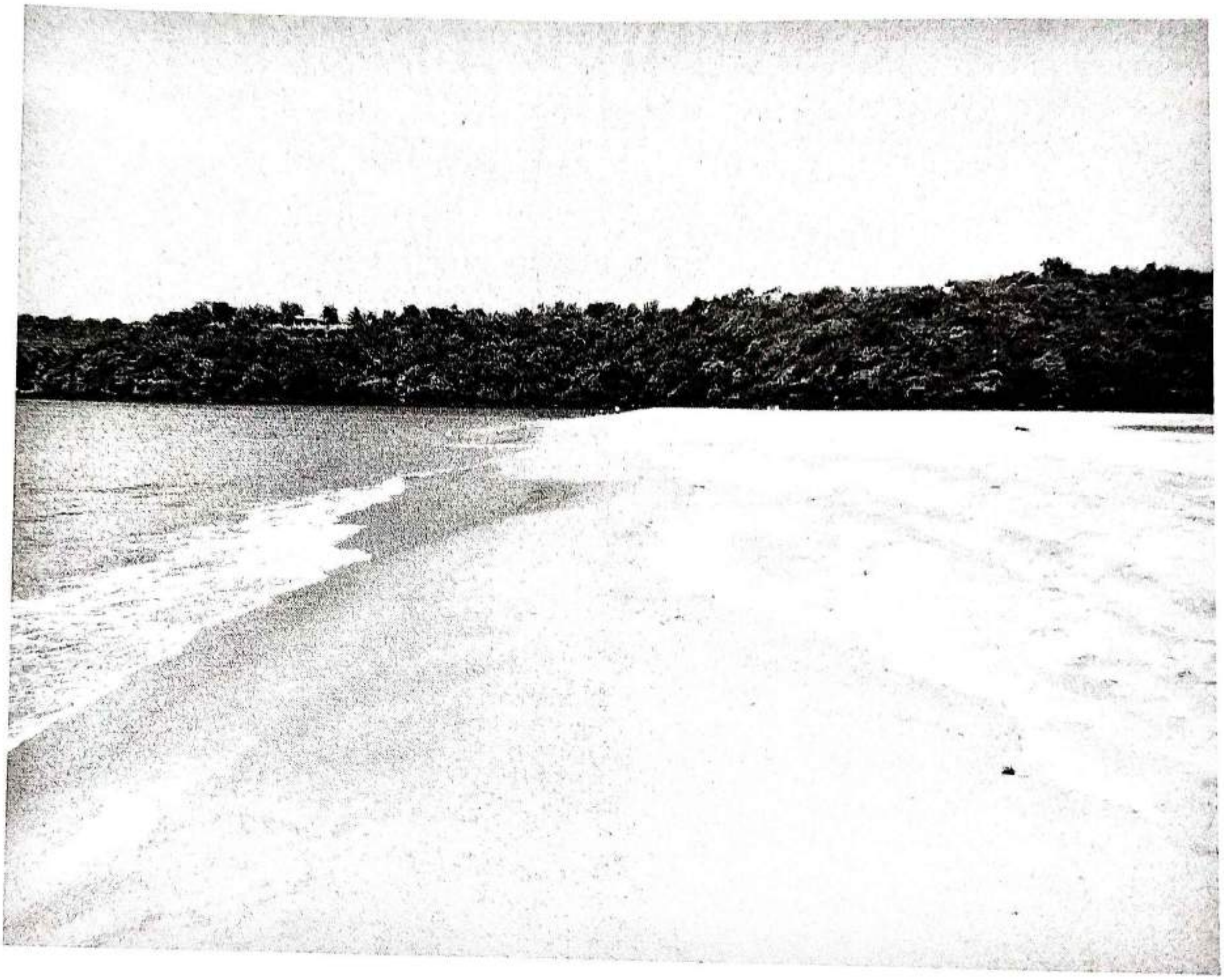
Annexure A-20

Studies on morphological impact by planned bridge piers on *Tiracol* river mouth, GOA



A Preliminary report submitted by

Coastal and Environmental
Engineering
National Institute of Ocean
Technology
(ESSO - Ministry of Earth Sciences)
Chennai – 100

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Report Summary

Title: Studies on morphological impact by planned bridge piers on *Tiracol* river mouth, GOA

Client:	Project Reference:	Pages
Goa State Infrastructure Development Corporation Limited (GSIDCL), Goa.	GSIDC/Engg/Works/854/2501	17

Keywords:

Tiracol mouth, Banda river, Sand spit, Littoral drift, Anthropogenic disturbances, Arabian Sea

Revision	**Date**	**Author**	**Initials**	**Review**	**Initials**	**Approval**	**Initials**
Preliminary *Introductory report on site and measurements*	26 Nov 2015.	Mr. Karunakar Mr. Aruna Kumar		Dr. Basanta Kumar Jena		Dr. M. V. Ramana murthy	

Classification:

☐ Open ☐ Internal ☐ Proprietary ☒ Confidential

Distribution State:	No of copies:
Draft	01 – digital format

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Introduction

The Tiracol River is one of the west flowing minor rivers, located at the border of states of Goa and Maharastra. It is called Banda River in the upper reaches according to Ratnagiri district gazetteer. Major portion of the river mouth is in the jurisdiction of Querem village and Goan government runs a ferry service across the channel for passengers and visitors of Tiracol fort. The site is identified as seasonally varying wide sandy beaches with Spit at the mouth of the river. The beaches were subject to heavy monsoon wave climate from Arabian Sea and are prone to severe erosion. GSIDCL upon the advice of CWPRS has initiated coastal protection measures at the site.

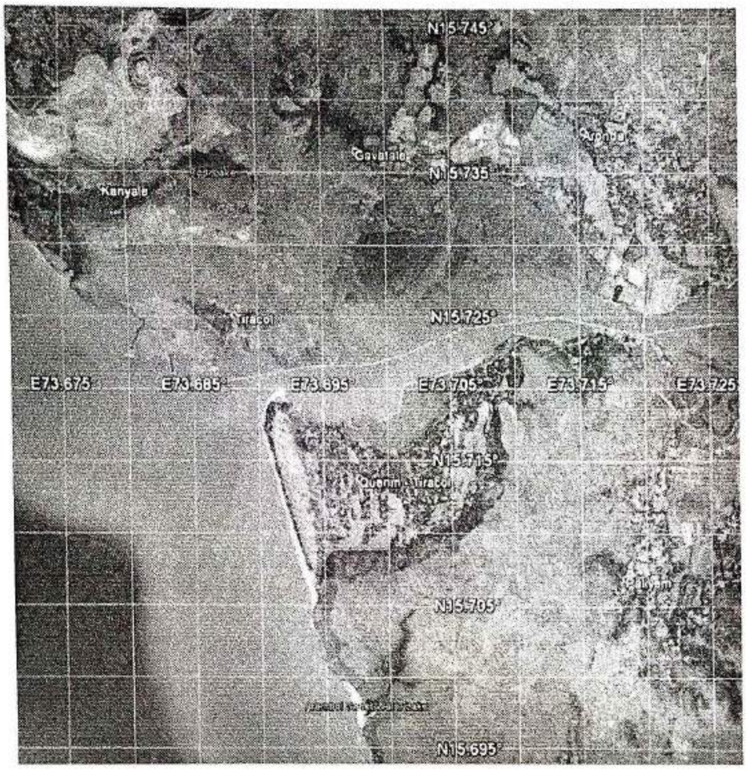


Figure 1 - Bird view of the site, Courtesy: Google earth.

A bridge is planned across the river as an alternative to the ferry transport in the mouth of the river. The proposed suspension bridge will have two main columns into the bed, near shore, on either banks of the mouth. There is huge public outcry, demanding the preservation of natural beauty of the Tiracol and surroundings. In this connection, GSIDC has asked NIOT, Chennai to undertake studies on the impact of manmade obstruction into the mouth sediment dynamics, through letter: "GSIDC/Engg/Works/854/2501".

Objective

The impact study will be conducted based on available data, supplemented with rapid data collection programme. The morphological changes at Keri spit due to bridge pier will be predicted accordingly.

Methods

Numerical modelling will be carried out using MIKE 21 Model of Danish Hydraulic Laboratory (DHI) or its equivalent at NIOT using observed and secondary data. Calibration and validation of the model will be done using field data. The details of the measurement and modelling methodologies are described below.

1. Tide: Tide measurements will be carried out at two locations using Veleport / Radar Level Sensor automatic tide recorders for the period of 15 days.
2. Current: Current measurements will be carried out simultaneously with tide observation.
3. Wave: Deep water wave data will be extracted from the NIOT wave atlas, validation with one site wave measurement will be carried out near river mouth by Wave recorder (Veleport or other ADV/ADP) to access the wave condition at the outer boundary.
4. Discharge: The river discharge is planned to be carried out near the river mouth during spring and neap tide one day each for 10 hours each during day time covering flood and ebb tide conditions.
5. Bathymetry: Sounding survey up to 5km upstream of the river Tiracol with 100-200m line spacing and 10m water depth w.r.t CD offshore (200-500m line spacing) will be carried out using single beam echo sounder with DGPS. Deeper water bathymetry data will be extracted from the C-MAP, both measured and C-MAP bathymetry data will be used for model setup.
6. Shoreline Mapping: Shoreline mapping will be carried out at both side of the river bank in and around Pile locations and ground control points for rectification of the Google imageries
7. Hydrodynamic, wave and sediment transport model will be carried out to evaluate the flow condition with and without the presence of bridge pillars.

Deliverables

NIOT will submit a consolidated report including field measurement and modelling results as per the objective of the study within 2 months on completion of the filed measurements.

Existing information

Longshore drift is a transport of sand parallel to the coast in the beaches, when waves attack them at an oblique angle. Spits are bars formed by deposition of longshore drift by destabilized carrying capacity, when an opening inland or similar feature is encountered.

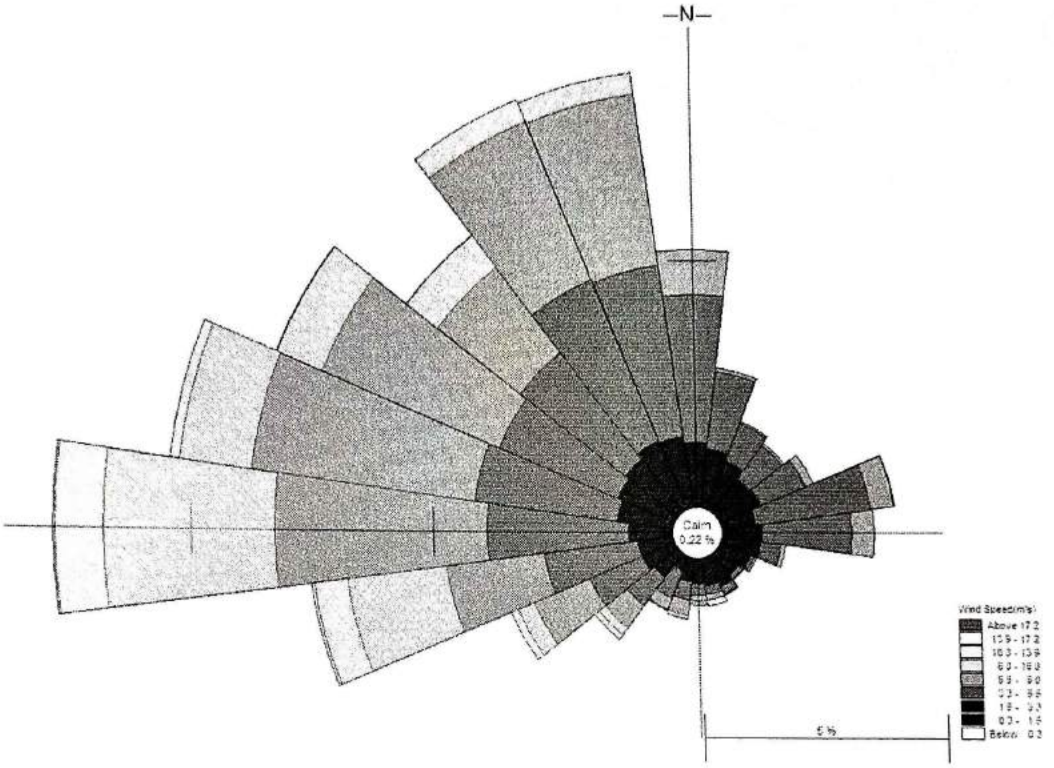


Figure 2 - Wind rose, offshore Goa coast - NCEP data set

Jayakumar *et.al*, 2014, were already involved in long term observation of the spit dynamics at the site and have concluded that the spit is unstable by ensuing wave climate on west coast. The Goan climate is predominant with south western monsoon with a maximum of 900 mm rainfall and a total of almost 3m a year. The drainage details are not available in the public domain, except for micro water shed atlas in soil and land use survey of India. The coast receives long period waves from South west and steep waves from west and North West directions (Sanil kumar *et.al* and Vethamony *et.al*). Wind is highly seasonal and can be 25 kmph in general during monsoons.

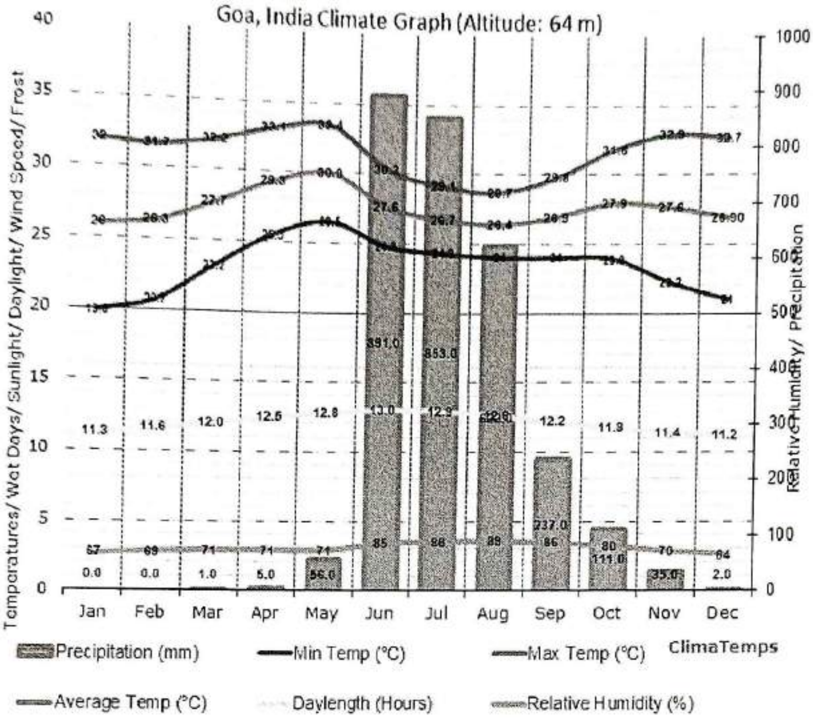


Figure 3 - Climate chart of Goa

General observation

A specialist team comprising experts from NIOT, Chennai and NIO, Goa has visited the site for preliminary visual inspection in the month of September and later in November. The sea was a little choppy to initiate measurements. Sea wall with Tetrapod structures is being erected on the western beach adjoining the mouth on the southern side of the river. A set of pillars is already in place approximately in the center of the spit. There exists a platform on the northern bank of the river for engineering related works. Shoals are found inside the creek and the northern bank is totally rocky. Diurnal tides are observed and wave breaking on the bar is significant. A jetty in the mouth lies broken on the south bank and ferry is operated between two concrete slopes on either side. Although there was some local trouble from the public; the team overcame the difficulties with support from GSIDC team. It is also observed that protection with rock groins is attempted on the northern bank.

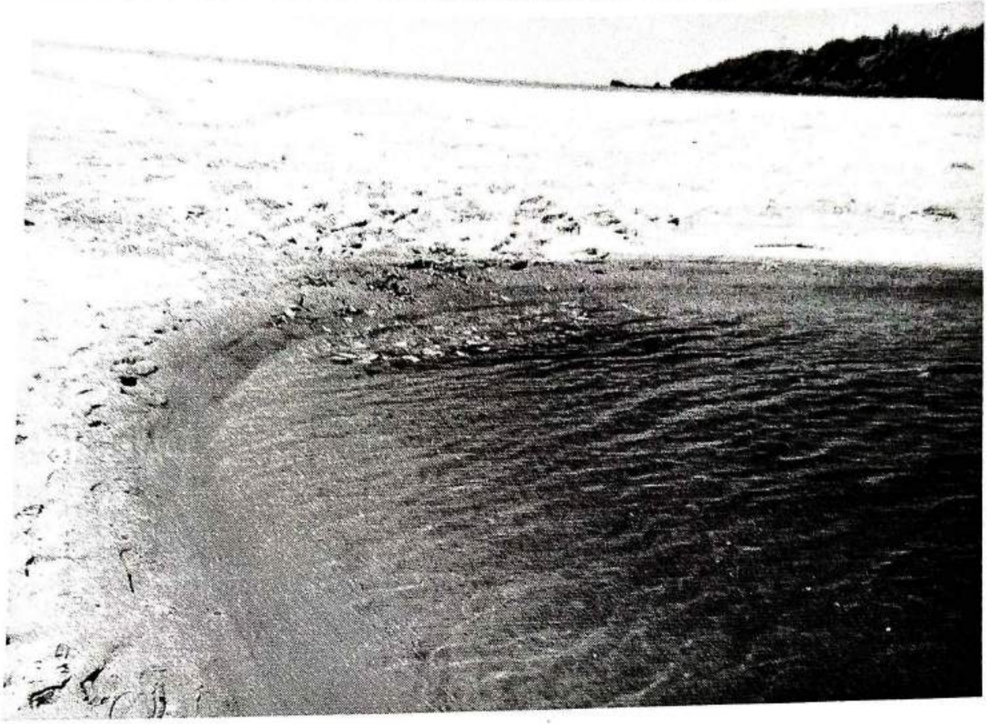


Figure 4 - View of spit and fort from the estuary

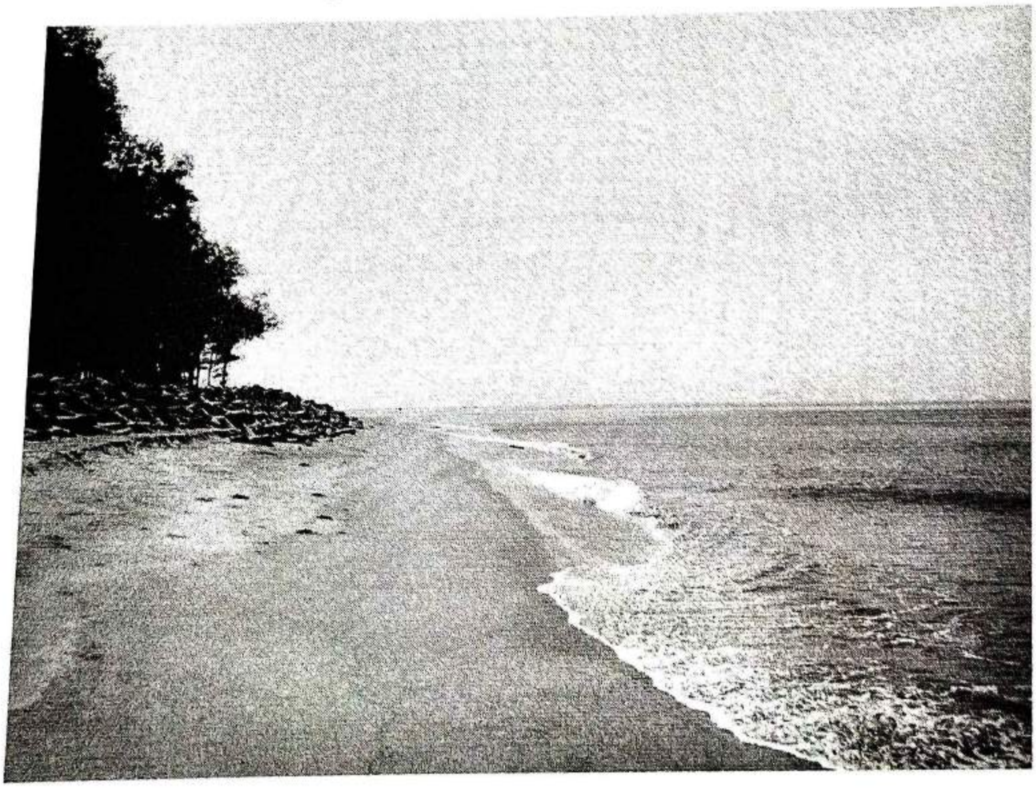


Figure 5 - Beach on the west with oblique waves battering the coast and tetrapod wall

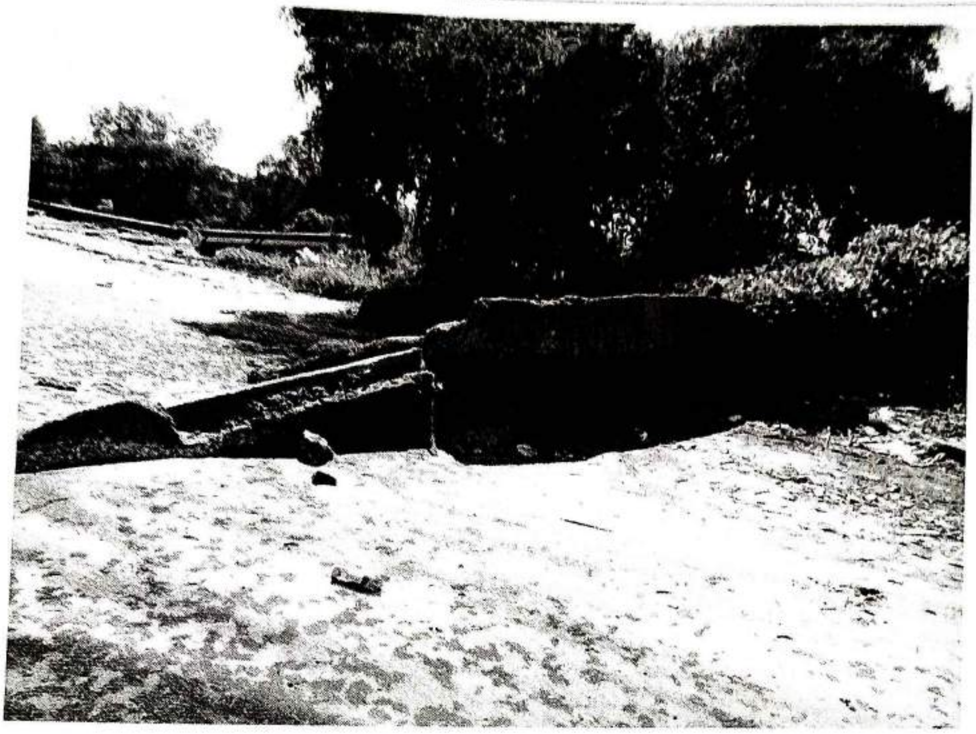


Figure 6 - Broken jetty on the southern bank at the mouth

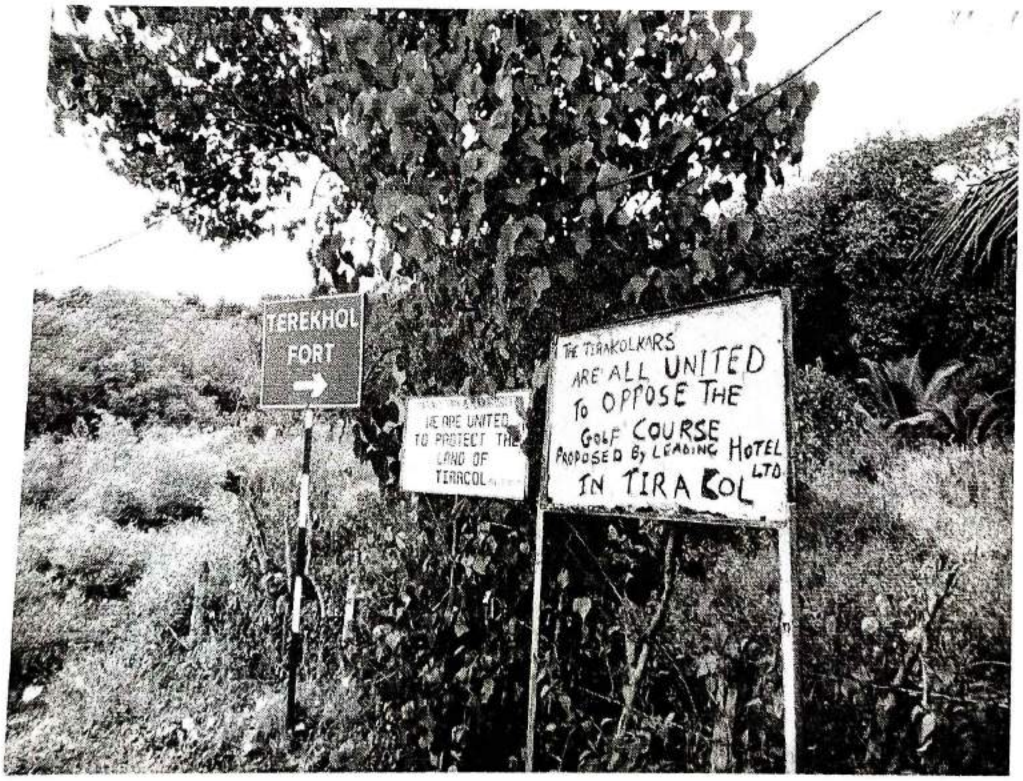

TEREKHOL
FORT
WE ARE UNITED
TO PROTECT THE
LAND OF
TIRACOL
THE TIRAKOLKARS
ARE ALL UNITED
TO OPPOSE THE
GOLF COURSE
PROPOSED BY LEADING HOTEL
LTD
IN TIRAKOL

Figure 7 – Play cards showing local agitation

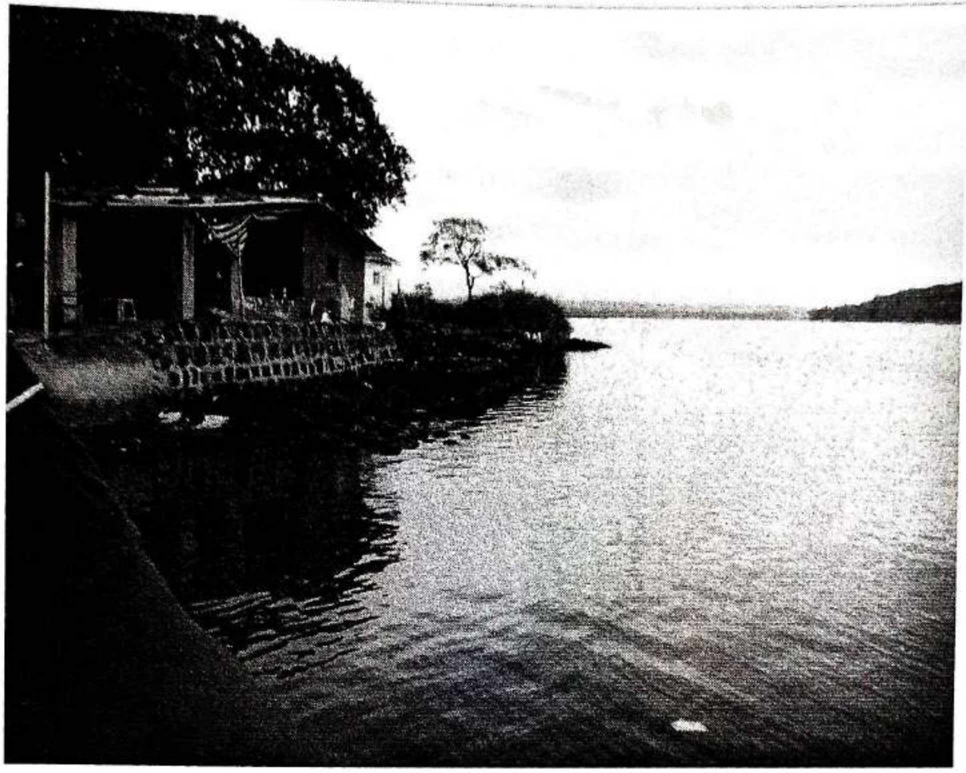


Figure 8 - Tea stall near approach slope at northern jetty

Measurements

Although information exist in open public domain on various physical oceanographic data, ground validation of shallow water characteristics is very important in an impact assessment study. Hence, NIOT has proposed a schematized measurement of various characteristics in the mouth and vicinity. This is essential to understand the local physics and validate a numerical model.

As per the proposal NIOT has conducted bathymetry survey and physical oceanographic (Tide and Current) observations in Tiracol estuary and Topographic survey along the Querem beach during October second week and November third week and are summarized in the following table.

Table 1 - Deployment locations and period

Sl. No	Instrument type	Deployment type	Location	Deployment starting date	Deployment ending date	Remarks
1	Tide (WTR)	Bottom Mount	15° 43.458' N 73° 43.188' E	11/11/2015	27/11/2015	
	Current (RCM)	U -Mooring		11/11/2015	27/11/2015	didn't work after 2 days
2	Tide (RLS)	Bridge Mount	15° 43.272' N 73° 41.539' E	10/11/2015	27/11/2015	
	Current (RLS)	Bridge Mount		13/11/2015	27/11/2015	
3	Current (ADCP)	Boat Hanging	15° 43.253' N 73° 41.533' E	15/11/2015	17/11/2015	
4	Discharge (Rio-Grande)	Boat	15° 43.272' N 73° 41.539' E	13/11/2015 & 18/11/2015	13/11/2015 & 18/11/2015	
		Boat	15° 43.458' N 73° 43.188' E	14/11/2015 & 19/11/2015	14/11/2015 & 19/11/2015	
5	Bathymetry (1 km)		River mouth to 6 km upstream	15/11/2015	16/11/2015	
6	RTK		2km on Querim beach from the river mouth	10/11/2015	12/11/2015	
7	Wave & Current (WRB & ADCP)	Mooring	15° 41' 58.83" N 73° 38' 59.39" E	13/10/2015	12/11/2015	Data to be extracted from NIOT long term projects for validation
8	Current	Mooring	15° 42' 25.17" N 73° 41' 26.51" E	13/10/2015	12/11/2015	
9	Current	Mooring	15° 42' 11.85" N 73° 40' 42.39" E	13/10/2015	12/11/2015	Lost equipment
12	Off shore Bathymetry					To be carried out during this week

Littoral Environment Observations were also carried out covering the beach region at half-hourly intervals over day time during the measurements.

It may be noted that reaching the anticipated measurement duration is not possible by limited deployment owing to total costs involved, vandalism, lost to sea - hazards. Some equipment was unable to log data due to disturbances, unavoidable. All the offshore deployed equipment, except the S4 current meter at 10m depth was retrieved. The S4 current meter at 10 m depth is missing due to the marker float being cut off. This S4 current meter is being searched with the help of divers. Near shore bathymetry on the sea side remains pending; by the time this report is being prepared, along with seabed sediments. Flow measurements are planned in the river if the climate permits.

Vertical Datum

Since the tidal measurements are for a short duration, the level information of the site is established by bringing the reference from the Railway reference network. Pernem station is available at a distance of 13 km aerial. GPS static observations were carried out and a reference level is established on a pillar on the west side of ferry approach slope on the southern bank. It reads 2.384m above MSL, after correcting the same for geoid affect, with an RMS error of 15 mm.

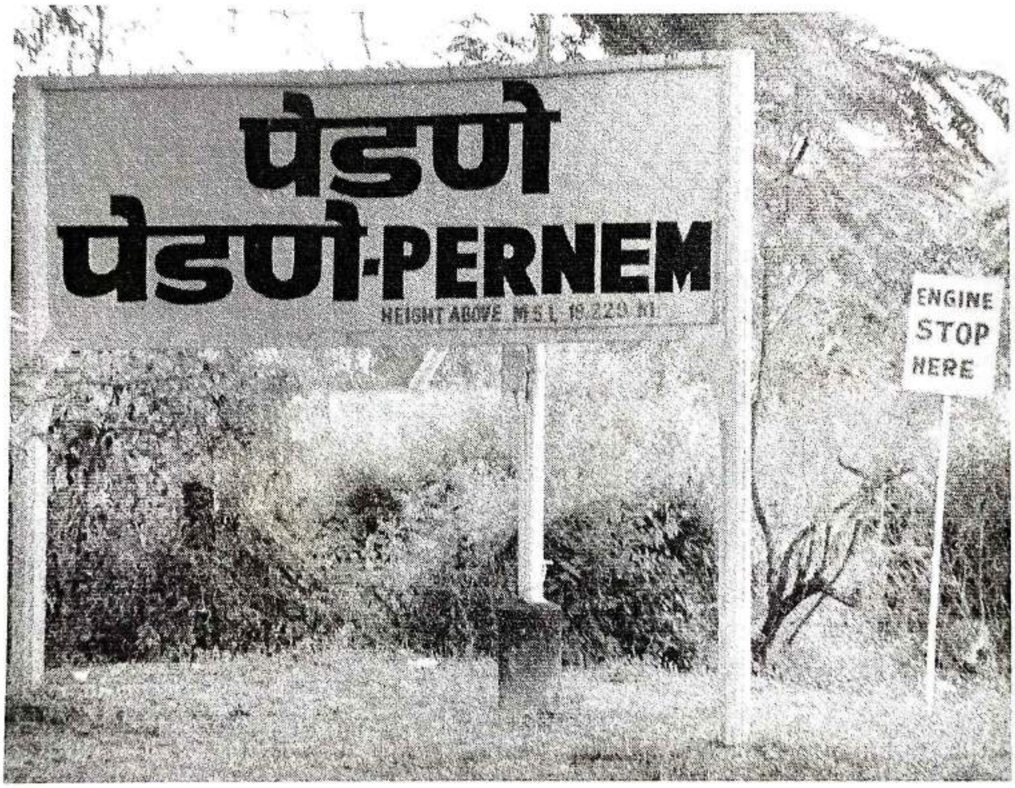


Figure 9 - Board displaying platform level at Pernem railway station

Physical oceanographic features observed

A maximum of 2 knots is observed at the platform on the north side of the creek and is tidally driven for the period of observation. The angle oscillates between 105° and 270°. The tide is semi diurnal influenced by local topography and spit of the creek. A max of 0.97 m and a min of -0.69m were observed with an average drift of 0.125 m.

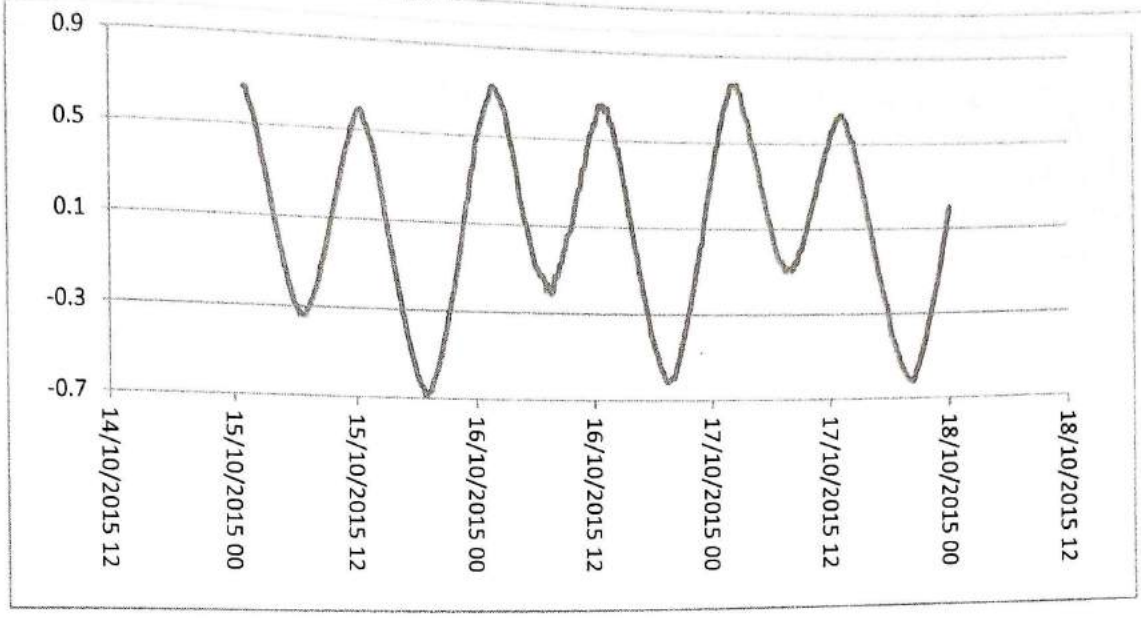


Figure 10 - Sample of measured diurnal tide inside the creek

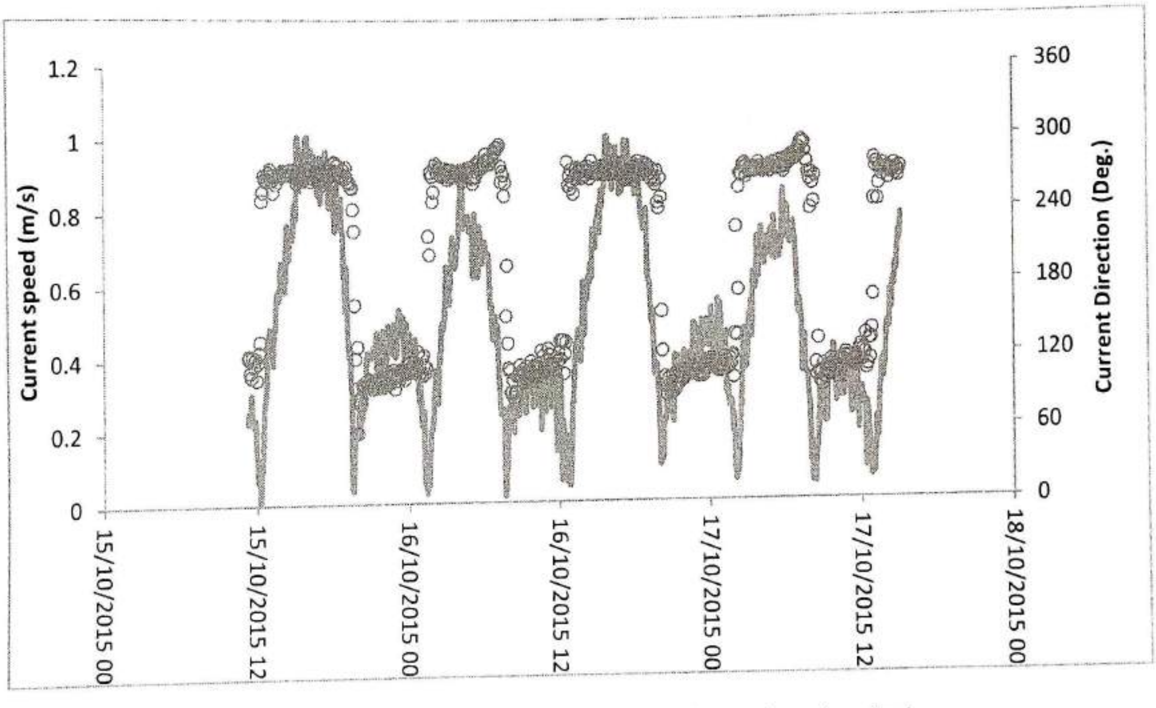
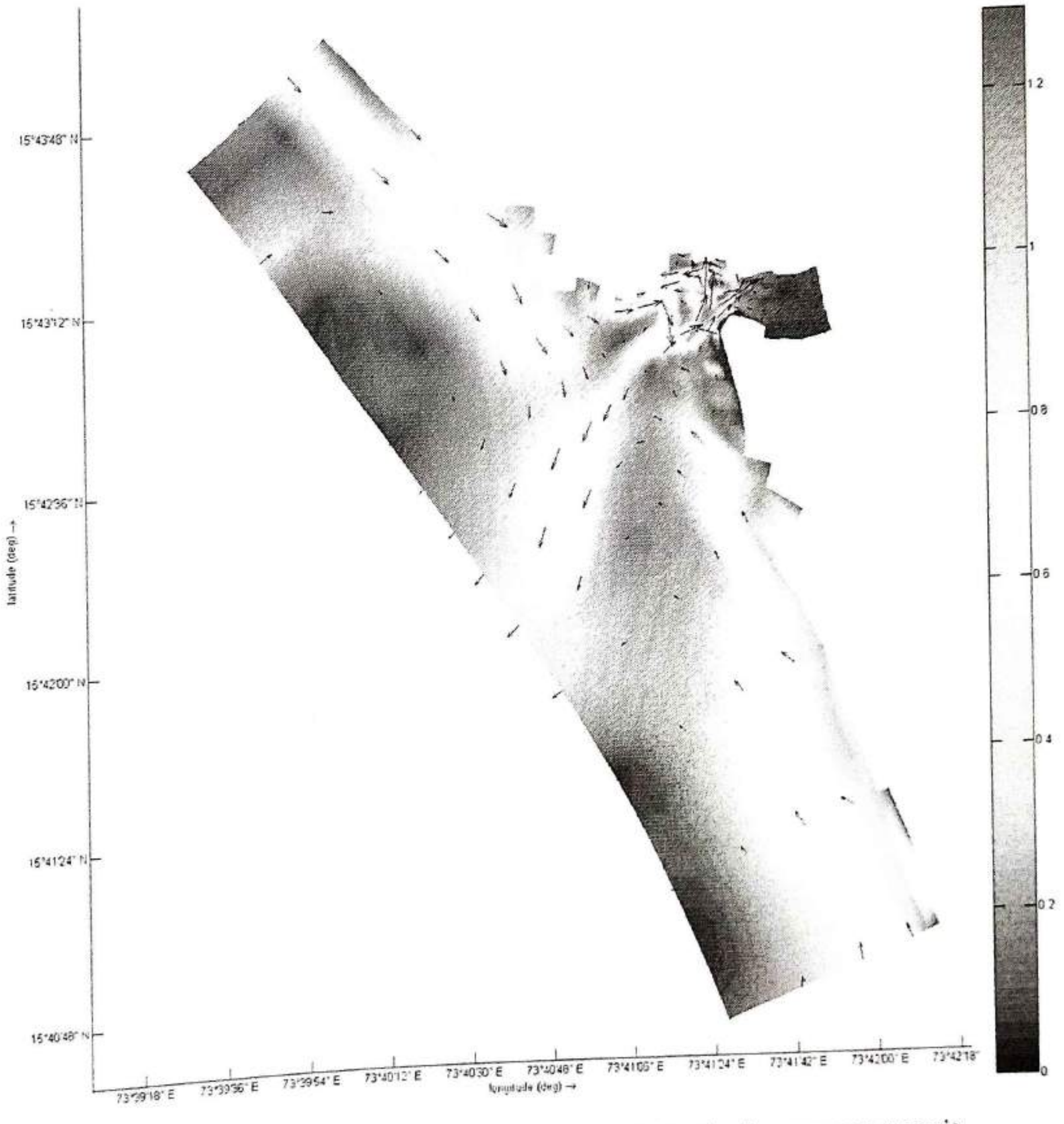


Figure 11 - Sample of measured current in the channel towards northern bank

Numerical Model

A preliminary model has been setup for the site with data sets from C-Map bathymetry, NIOT creek surveys and WWIII wave climate. The model is based out of delft3d code and curvilinear grids are adopted with a constant Manning friction and topex poisedon corrected tides. Major features are accounted for their influences in the setup. The wave model is based out of SWAN with enhanced treatment of Triads to account spectral changes over varying sea bed topography and reflections by rock out crops.


15°43'48" N
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15°42'00" N
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15°40'48" N
latitude (deg) →
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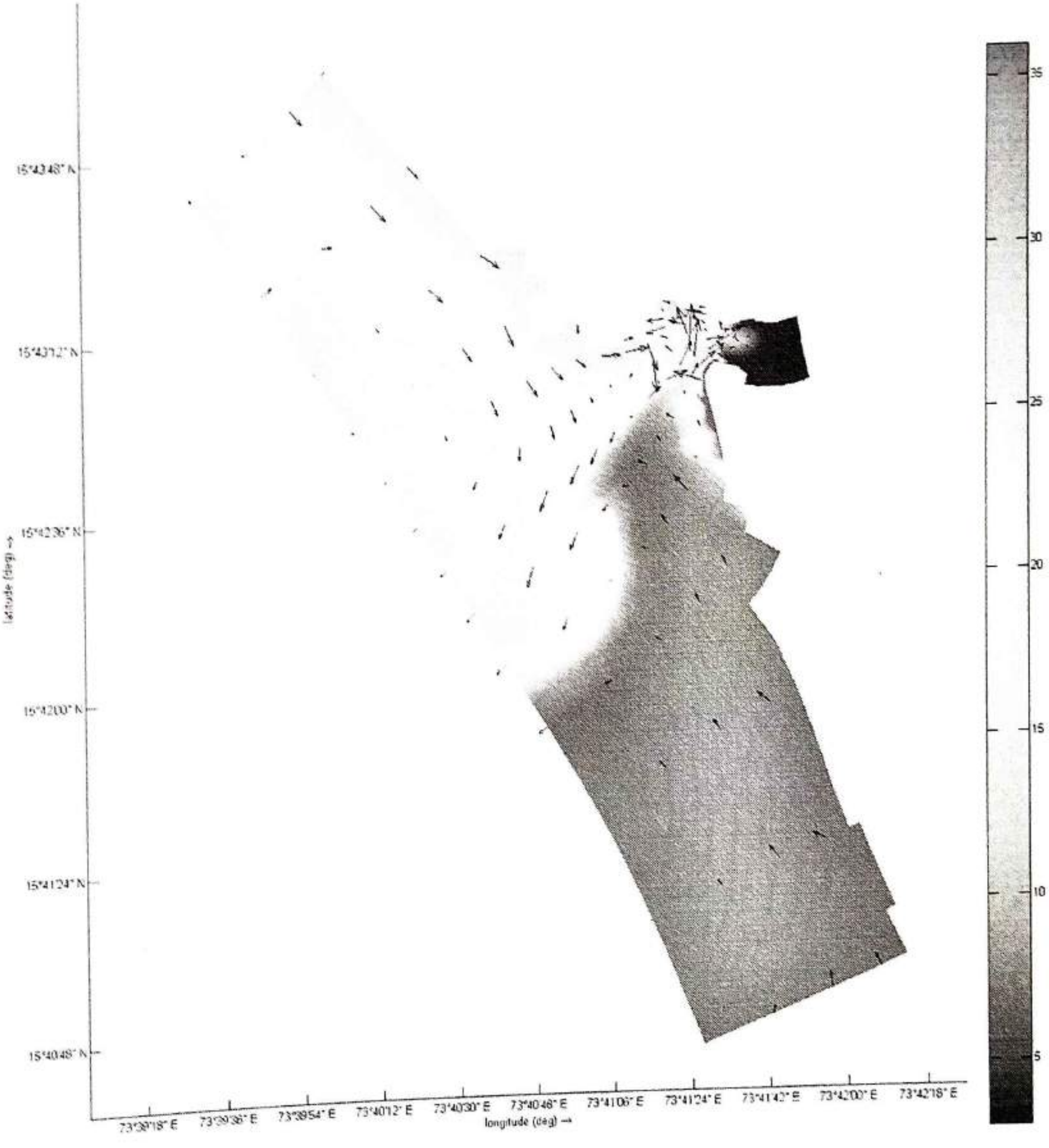
73°39'36" E
73°39'54" E
73°40'12" E
73°40'30" E
73°40'48" E
73°41'06" E
73°41'24" E
73°41'42" E
73°42'00" E
73°42'18"
longitude (deg) →
1.2
1
0.8
0.6
0.4
0.2
0

Figure 12 - Spatial view of velocity magnitude and direction for a monsoon scenario.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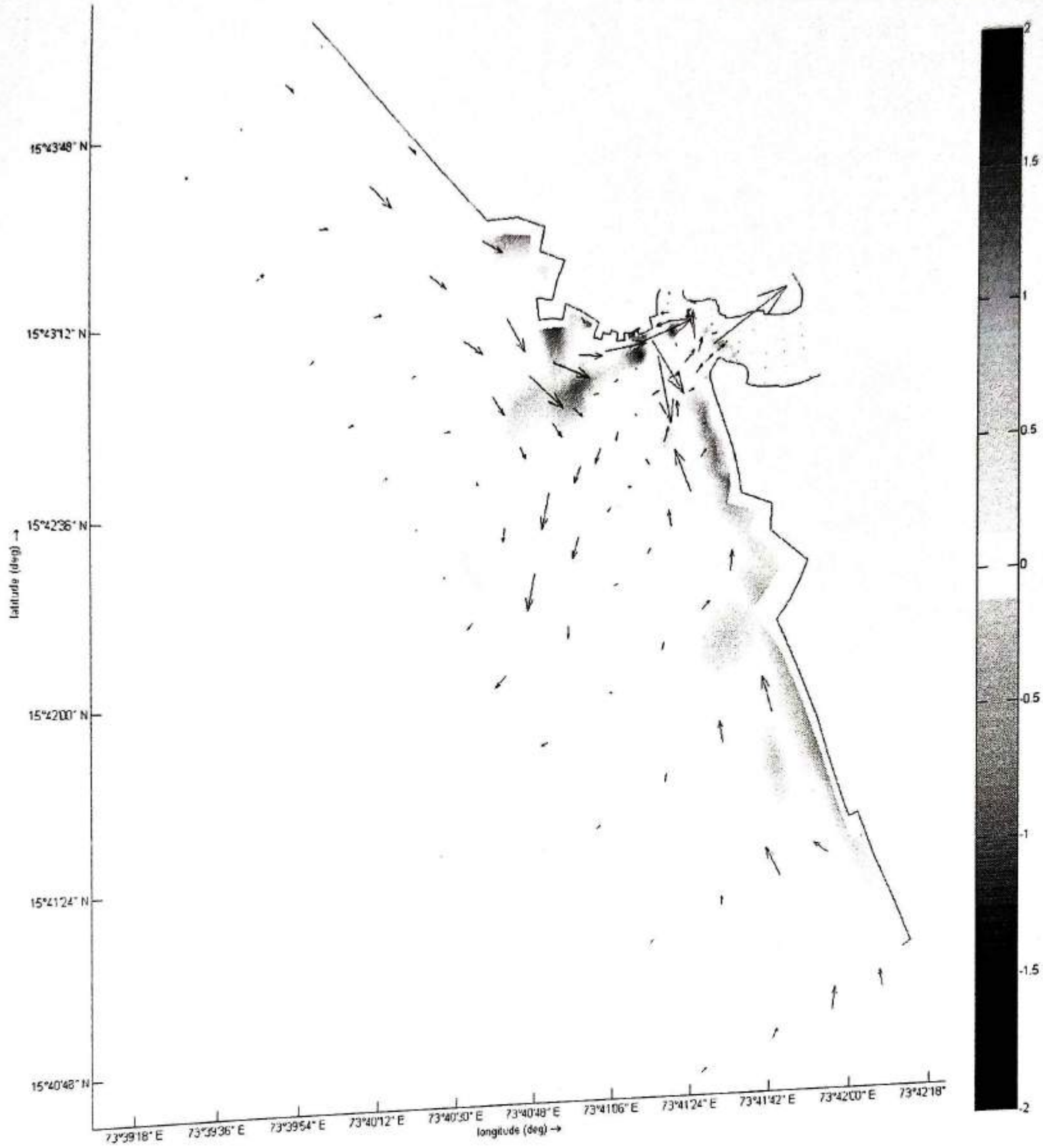
73°40'12" E
73°40'30" E
73°40'48" E
73°41'06" E
73°41'24" E
73°41'42" E
73°42'00" E
73°42'18" E
longitude (deg) →
35
30
25
20
15
10
5

Figure 13 - Salinity circulation in the vicinity of the mouth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15°42'00" N
15°41'24" N
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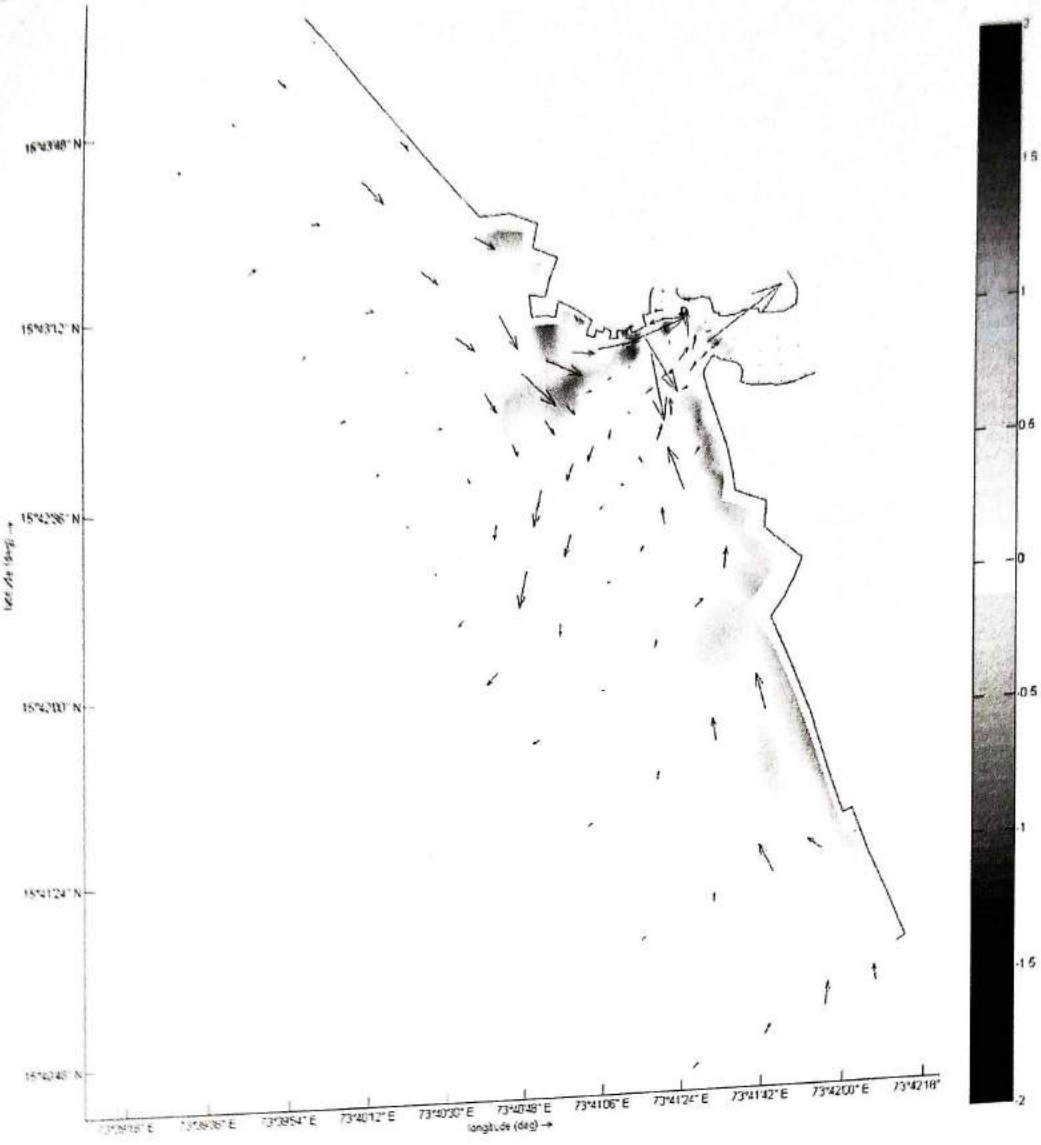
latitude (deg) →
73°39'18" E
73°39'36" E
73°39'54" E
73°40'12" E
73°40'30" E
73°40'48" E
73°41'06" E
73°41'24" E
73°41'42" E
73°42'00" E
73°42'18"
longitude (deg) →
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2

Figure 14 - Estimated morphology and predominant transport direction for monsoon

Conclusions

Studies are in progress and details shall be reported in Intermittent/final report at least 2 months after first fort night of December, the anticipated field data collection closure time, as accepted through TOR.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15°41'24" N
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73°39'54" E
73°40'12" E
73°40'30" E
73°40'48" E
73°41'06" E
73°41'24" E
73°41'42" E
73°42'00" E
73°42'18"
longitude (deg) →
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2

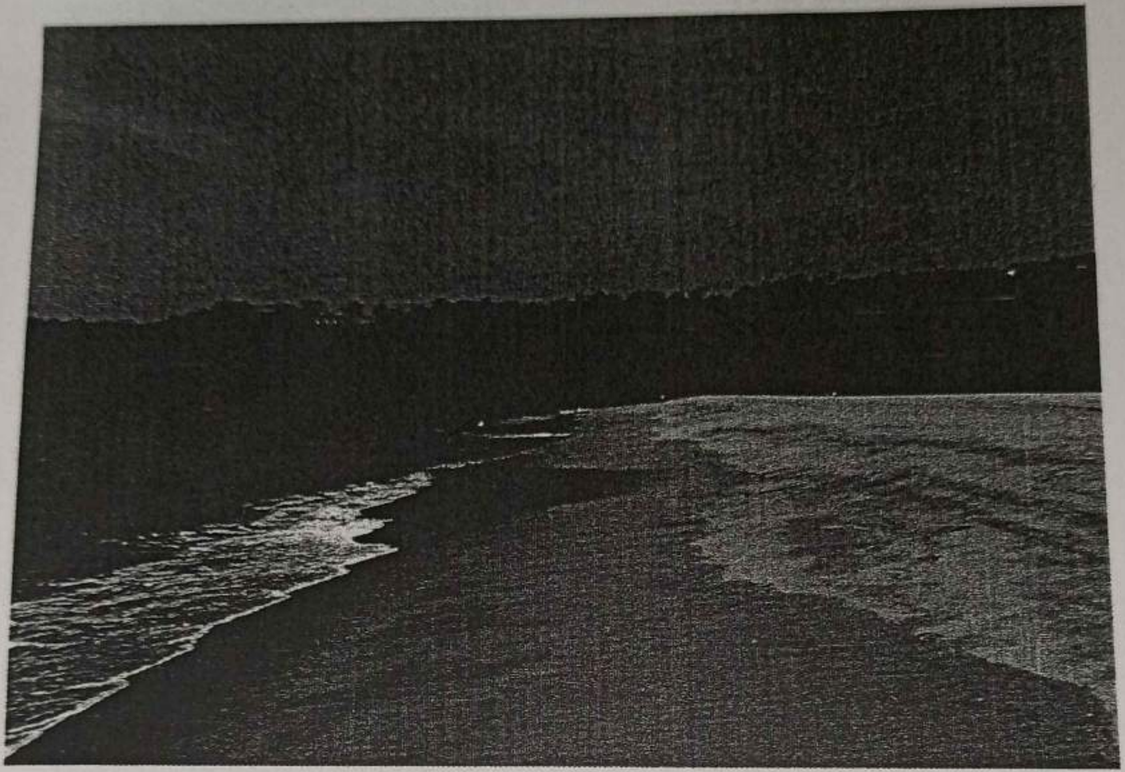
Figure 14 - Estimated morphology and predominant transport direction for monsoon

Conclusions

Studies are in progress and details shall be reported in Intermittent/final report at least 2 months after first fort night of December, the anticipated field data collection closure time, as accepted through TOR.

Annexure A-21

Study of Hydrodynamic and Morphological change at Tiracol Estuary, GOA



A report Submitted to

National Green Tribunal

By

Coastal and Environmental Engineering,
National Institute of Ocean Technology,
(Ministry of Earth Sciences, Govt. of INDIA)
Chennai - 600100

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Executive Summary

A proposal on construction of a suspension bridge has been taken up by the Goa State infrastructure development corporation, across the Tiracol estuary, downstream of Kiran pani Bridge during 2013. A pillar (No.6) of the bridge is found to be falling into the estuarine area on the spit head in the southern bank. Upon direction by National Green Tribunal, GSIDC has approached National Institute of Ocean Technology, Chennai to undertake studies on the impact of proposed pillar, its influence on tidal water activity or changes in estuarine areas, through letter: "GSIDC/Engg/Works/854/2501".

NIOT has conducted desk studies to assess the impact of the bridge pillar based on secondary information and short term measurements carried out for a period of 15 days. The measurements include water level, current and waves in the Open Ocean and Water level, current in the estuary. Bathymetry and topographic surveys are undertaken in the vicinity of the proposed bridge.

The analysis of the collected data during October, 2015 around pillar 6 indicates growth of sand spit is seasonal and there can be inter-annual variations. The dimensions of the bridge pillar are not significant when compared to the natural variation of the sand spit. However, a detailed analysis was conducted to study the migration of sand spit at pillar 6 with respect to the season and its impact. The study indicates that pillar 6 has no influence during monsoon and limited accretion during fair weather, when estuary is wide opened. The flow simulation with accretion at pillar 6 shows no significant changes in the exchange of flow between estuary and the open sea. As a precautionary measure, it is recommended to increase the pile cap elevation by 1m above highest flood level (HFL) to avoid blockage of sediment, if any in future.

Report Summary

Client: Goa State Infrastructure Development Corporation Limited (GSIDCL), Goa.	**Project Reference:** GSIDC/Engg/Works/854/2501	**Pages:** 33

Keywords:
Tiracol mouth, Banda river, Sand spit, Littoral drift, Anthropogenic disturbances, Arabian Sea

Revision	**Date**	**Author**	**Initials**	**Review**	**Initials**	**Approval**	**Initials**
Preliminary Report	26 Nov 2015	Mr. Karunakar Mr. Aruna Kumar	KK AKA	Dr. Basanta Kumar Jena	BKJ	Dr. M. V. Ramana murthy	MVR
Final Report	17 Feb 2016	Mr. Karunakar Mr. Aruna Kumar	KK AKA	Dr. Basanta Kumar Jena	BKJ	Dr. M. V. Ramana murthy	MVR

Classification:

☐ Open ☐ Internal ☐ Proprietary ☒ Confidential

Distribution State: Final and confidential, for NGT (WZ), Pune	No of copies: 02 – Hard copy bound and sealed.

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1. Background

National Green tribunal (NGT), western zone bench, Pune, has ordered Goa State Infrastructure Development Corporation (GSIDC), vide orders of the tribunal on "application no. 33/2015 (WZ), Item No. 16, April 17, 2015 – Order no.2", to consult for ascertaining changes by construction of "pillar no. 6" in Tiracol mouth, its influence on tidal water activity or changes in estuarine areas, particularly on the spit of Keri and closure of mouth.

GSIDC has requested National Institute of Ocean Technology (NIOT), Chennai to undertake studies on the impact of bridge pillar to flow into the estuary of Tiracol vide letter "GSIDC/Engg/Works/854/2501". NIOT has conducted desk studies based on the secondary information and primary data collected for a period of 15 days during October, 2015. The results of the study and recommendations are reported.

2. Physical description of the site

Tiracol is a non-perennial river and estuary is influenced by tide. The northern portion of the coast features hilly terrain, hosts the famous Tiracol fort, whereas the southern portion has a beach with sand coast line that migrates with seasons. The southern portion of the shore is protected with tetrapods to protect from severe monsoonal erosion.

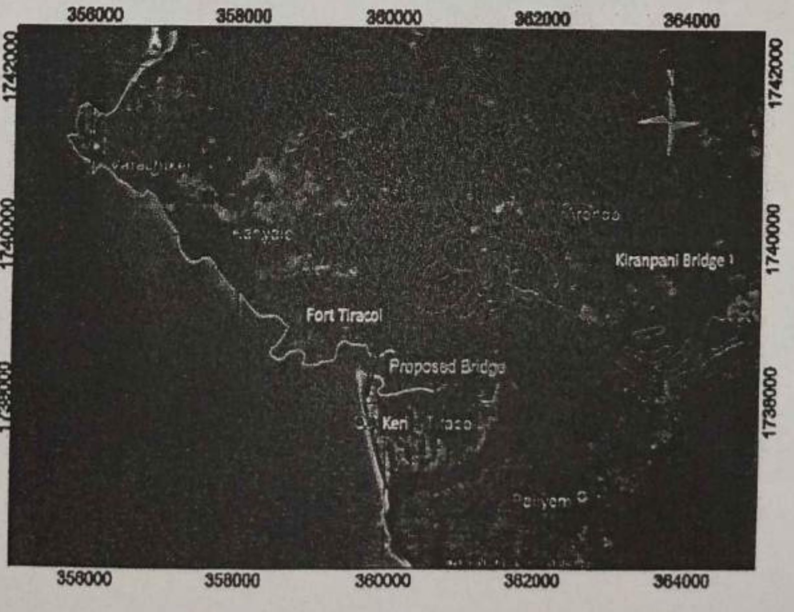


Figure 1 - Location of proposed bridge and its environment.

There exist two bays like systems on both sides of the Kiran pani bridge. The site has large areas of intertidal flats, with mangroves and the deep channel that assumes river alignment further upstream. A submerged bar is present in the shallow water with seasonally varying direction and size modulated with the runoff and tide interaction, shown in Figure 1.

Tiracol river

The northern bank of estuary has the rocky extension and boulders in inter tidal zone, with a small bay near the cemetery. The southern bank is built of marine sands and is flat. Various river training structures are existent, like spurs in the northern bank, shown in Figure 2, probably for bank protection and concrete wall in the estuarine portion on the southern bank (Figure 3). The southern shore of the estuary confluence is protected by sea wall for a length of 1.25 km approximately. Sand accumulation during fair weather season on the sea side of the protection Keri beach and erosion during monsoon are noticed. The channel is deeper with a bird neck like feature near the small bay at the Tiracol fort, deeper up to 10 m and the channel extends in to the river.

Figure 2 - Boulders and spurs on northern bank

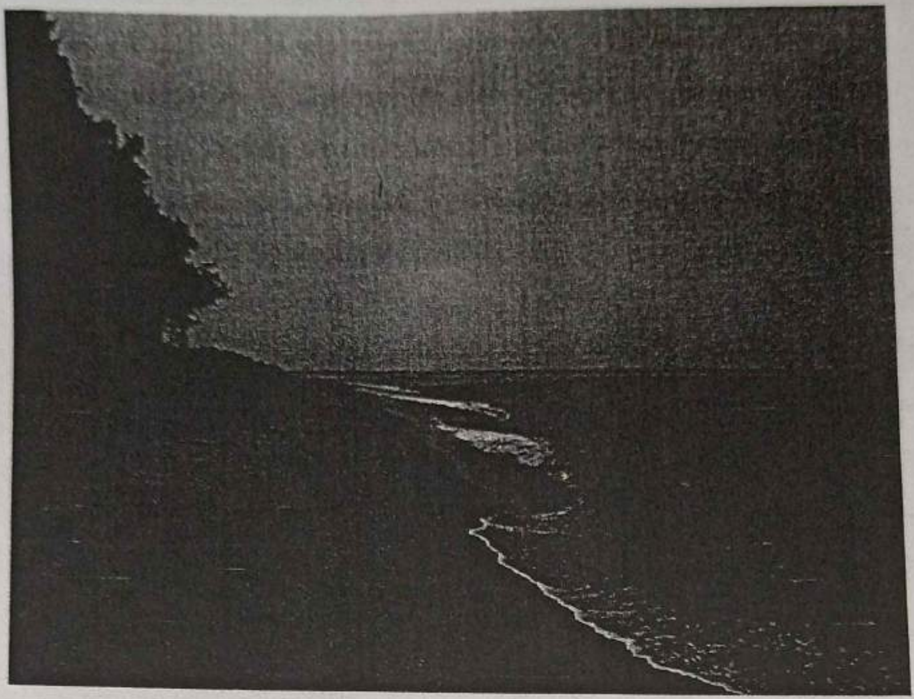
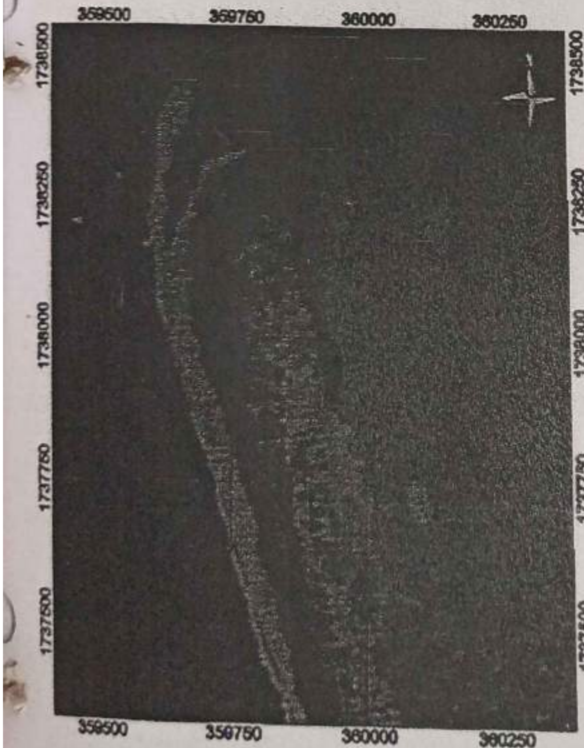


Figure 3 - Southern beach with coastal protection works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1738500
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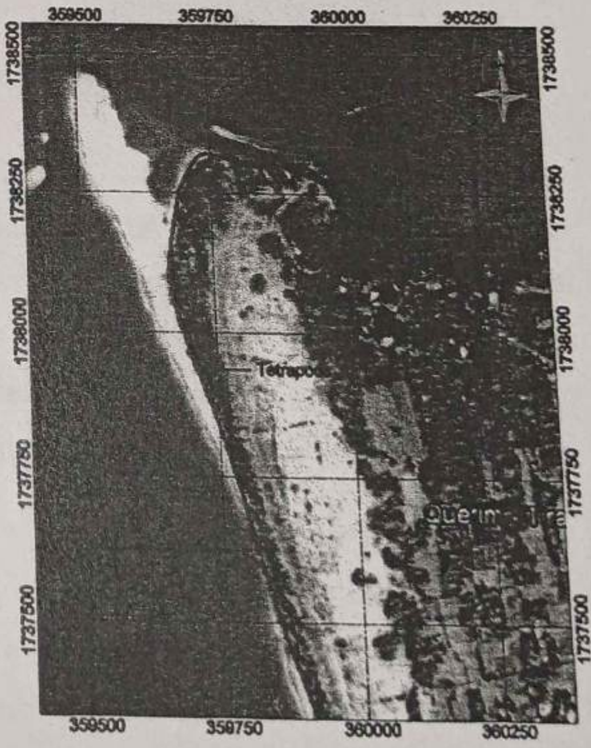
1737750
1737500

Figure 4 - Pristine shore line, Jan 2008 imagery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359750
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1738000
1737750
1737500
Tetrapod
Querim

Figure 5 - Protected shore line, Jan 2010 imagery

2.1 Catchment

The Banda River in Maharashtra, the younger phase, originates in the Sahayadris and is called Tiracol at the mouth portion. Major portion of the catchment is in the Maharashtra state and streams flown down the narrow gorges of the Western Ghats. National Institute of Hydrology has listed this river under west flowing rivers from Tapi to Tadri, under line item 37, with a catchment area of 530 sq.km and an annual run off of 1233 million cu.m, which is more realistic owing to rainfall of the region. Ground water information booklet for northern Goa by central ground water board states that Tiracol River is surrounded with laterite soil type and can have a ground water recharge from to 0.15 to 0.25 m. The average evapo-transpiration of 12% and 35.5% of ground water recharge for northern Goa districts is estimated by Choudri *etal.,* 2004 with a model for varying land cover and use.

Goa experienced heavy rains during March, 2008, (Rupa *etal.,* 2011). By rainstorm analysis, Nandargi *etal.,* had derived an envelope for maximum rainfall over day period. The maximum average rainfall for a day is expected to be 0.2 m. This esults in high drainage of fresh water into the estuary during SW monsoon.

2.2 Sediments

The Geological map of the site, as provided by the web version of the Bhuvan thematic maps, NRSA & ISRO, Figure 6 says that the site formed from neo coastal sediments and is abutted by rocky terrain on the both banks. The flat land on the southern banks towards the sea is in the shape of a quarter pies surrounded by elevated terrain, whereas plain features exist on the northern banks of the river upstream.

Sediment discharge from rivers is major contributors to the Total suspended solids in the high energy water column. The average physical discharge is 73.5 tons per sq.km of catchment per year (research studies utilizing CWC report) and that 90% of total discharge take place in monsoon.

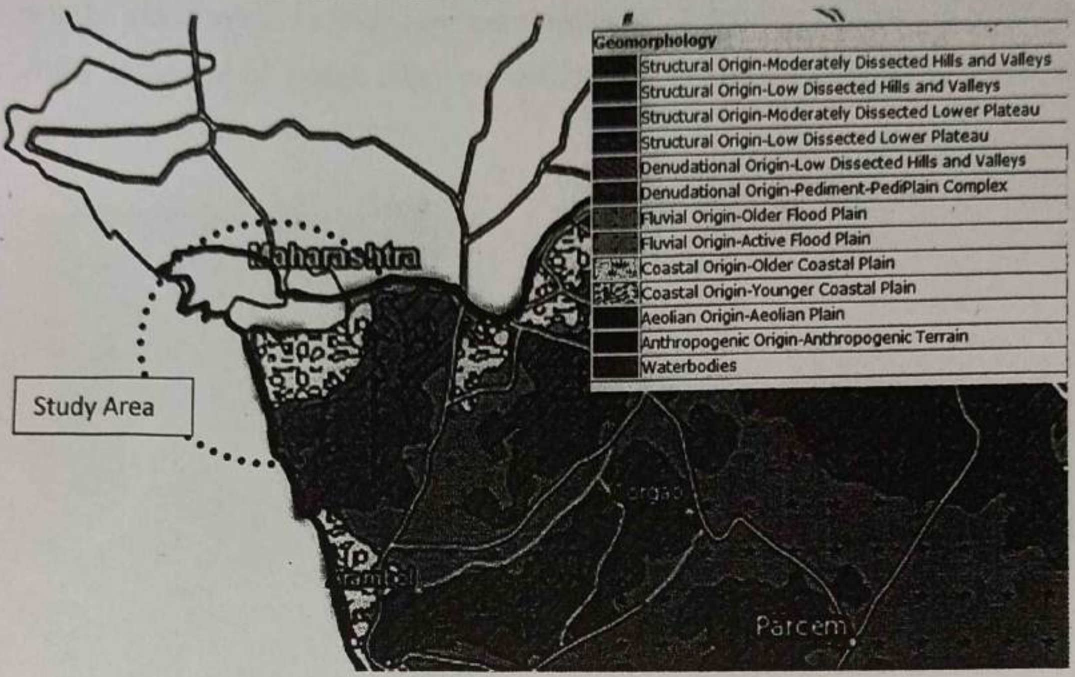

Geomorphology
Structural Origin-Moderately Dissected Hills and Valleys
Structural Origin-Low Dissected Hills and Valleys
Structural Origin-Moderately Dissected Lower Plateau
Structural Origin-Low Dissected Lower Plateau
Denudational Origin-Low Dissected Hills and Valleys
Denudational Origin-Pediment-PediPlain Complex
Fluvial Origin-Older Flood Plain
Fluvial Origin-Active Flood Plain
Coastal Origin-Older Coastal Plain
Coastal Origin-Younger Coastal Plain
Aeolian Origin-Aeolian Plain
Anthropogenic Origin-Anthropogenic Terrain
Waterbodies
Maharashtra
Study Area
Parcem

Figure 6 - Thematic geological map of the northern goa

The net transport of sediments in coastal region is established to be flowing southwards for west coast by Wagle, 1985, Chandra Mohan and Nayak, 1992 with peculiarities at some places owing to regional effects. Antony, 1976, opined closure of sediment movement and balance of beach sections in a coastal cell pattern.

Data on sediments has been drawn from Jayakumar *etal.*, 2014 where systematic post monsoon analysis was reported. The mean of the grain size is found to be 340 μm, with a small oscillation over the high and low tides, except for the month of December.

Spit

2.3 Preliminary assessment

The sand spit at the Tiracol mouth is dynamic and growth is dependent on the interaction of waves, tides and fresh water discharge from the river. Satellite images available in public domain google earth from 2013 to 2015, were studied to enumerate the spit changes, shown in Figure 7 to Figure 13. It can be seen that the spit develops seaward and migrates towards the estuary. The bridge pillar no. 6 in the estuary is located at 35m from the permanent coast line (shore protection). Location of Pillar no. 6 is always in the shallow waters in the wake of spit or on dunes for most of the time. Dune The pillar no 6 with a projected area of 4.8 sq. m/m depth across the flow is small compared to the mouth dimension of 200 m approximately. The above analysis clearly indicates the effect would be less significant. However, a detailed analysis is conducted to quantify influence of bridge pillar on the growth of spit and resulting water flow exchange between sea and estuary.

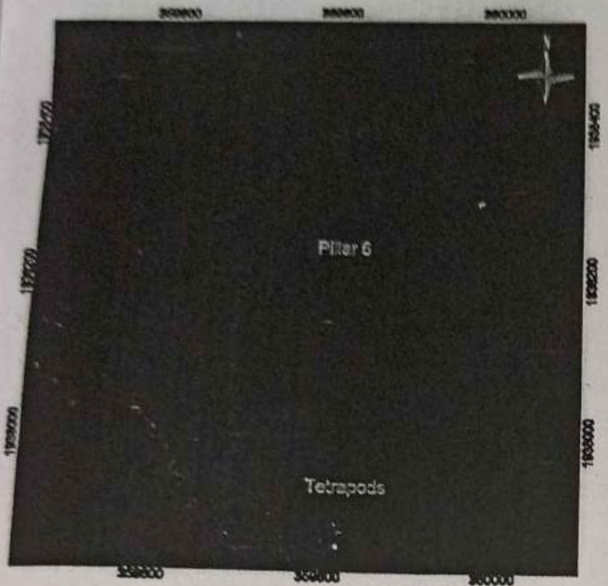


Figure 7 – Spit status by 20 April 2013

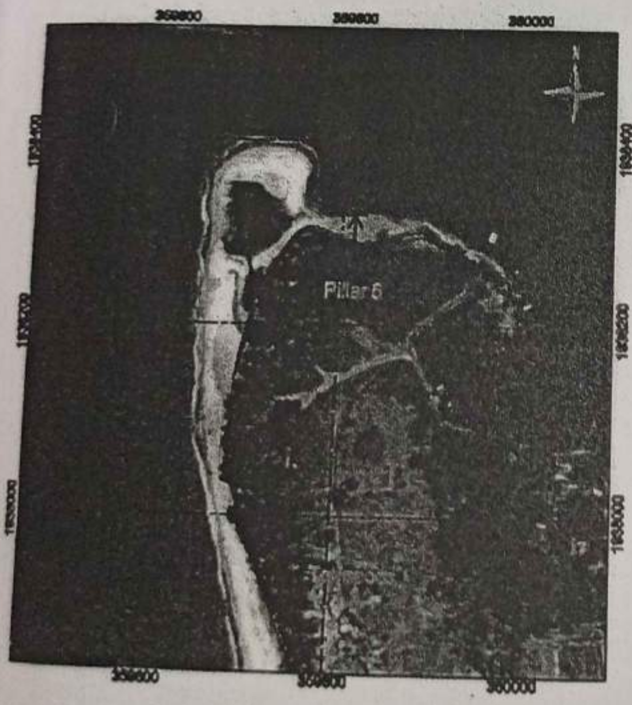


Figure 8 - Spit status by 14 March 2014

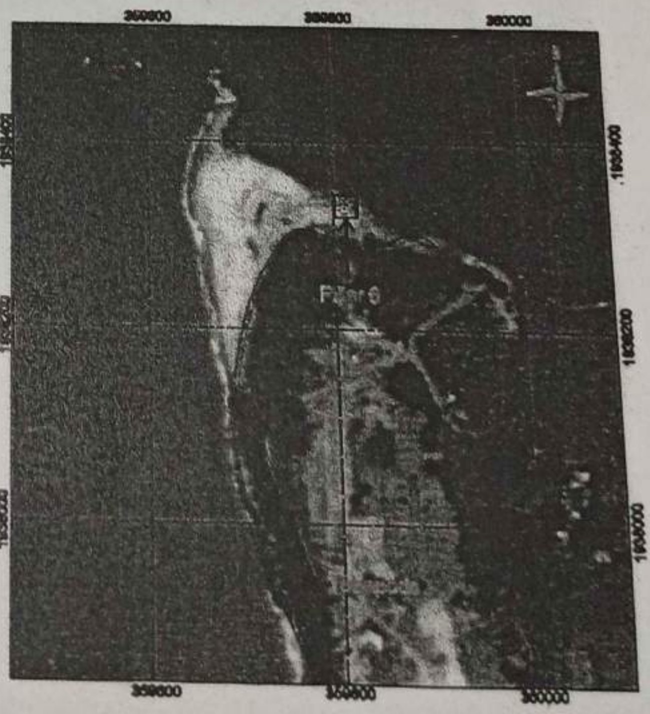
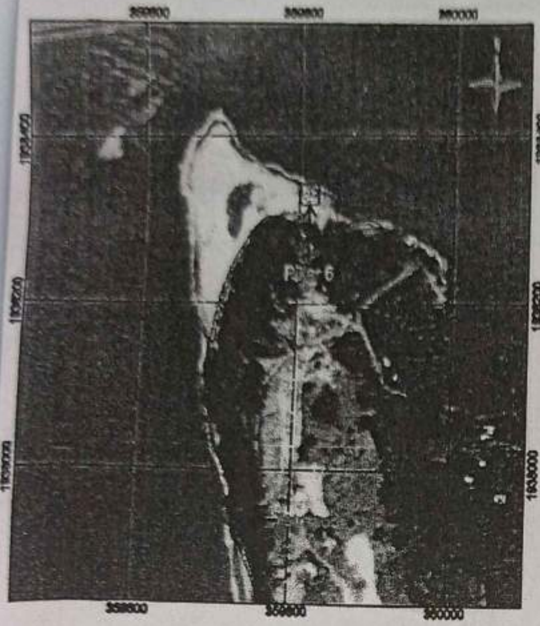


Figure 9 - Spit status by 6 November 2014


359600
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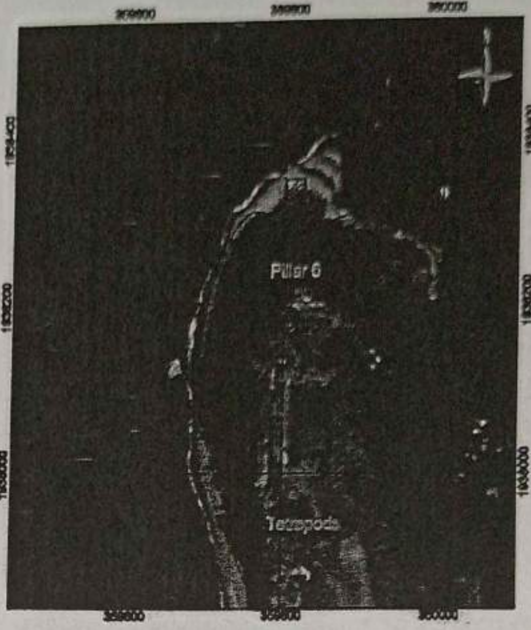
Pillar 6

Figure 10 - Spit status by 9 November 2014


359600
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Pillar 6
Tetrapods

Figure 12 - Spit status by 3 April 2015

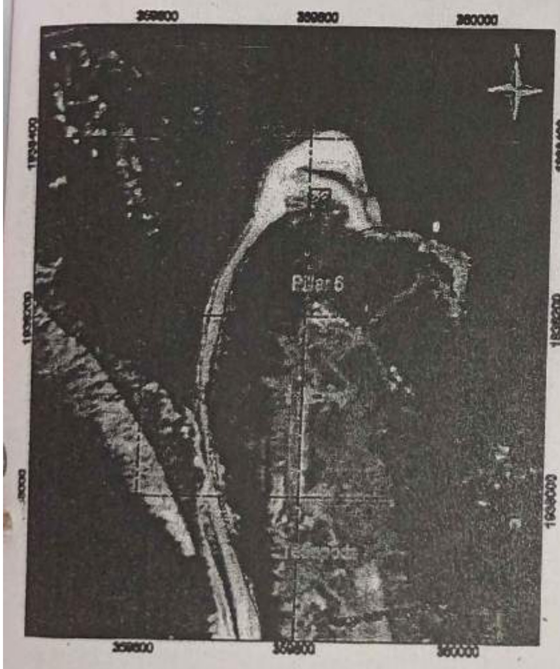

359600
359800
360000
1938400
1938200
1938000
Pillar 6
Tetrapods

Figure 11 - Spit status by 13 March 2015

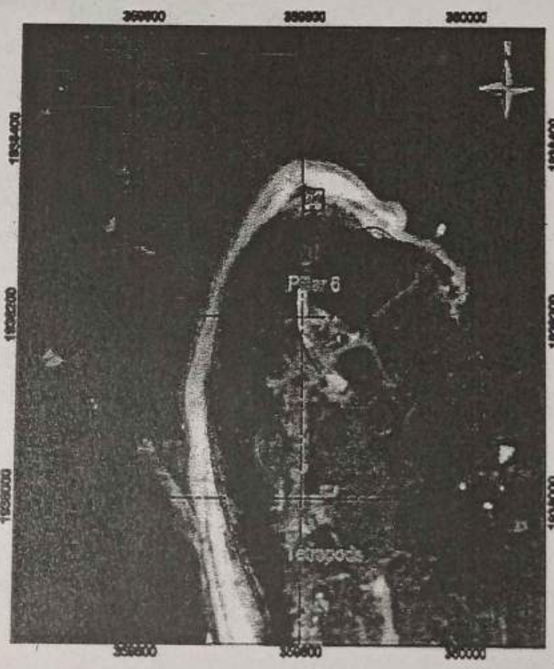

359600
359800
360000
1938400
1938200
1938000
Pillar 6
Tetrapods

Figure 13 - Spit status by 19 December 2015

Desk Studies

.1 Field observations

As per the request of GSIDC and requirements of NGT, NIOT has onducted bathymetry survey and physical oceanographic (Tide and Current) bservations in Tiracol estuary. Topographic surveys were carried out along the uerem beach during October second week and November third week. The details of easurements are provided in Table 1.

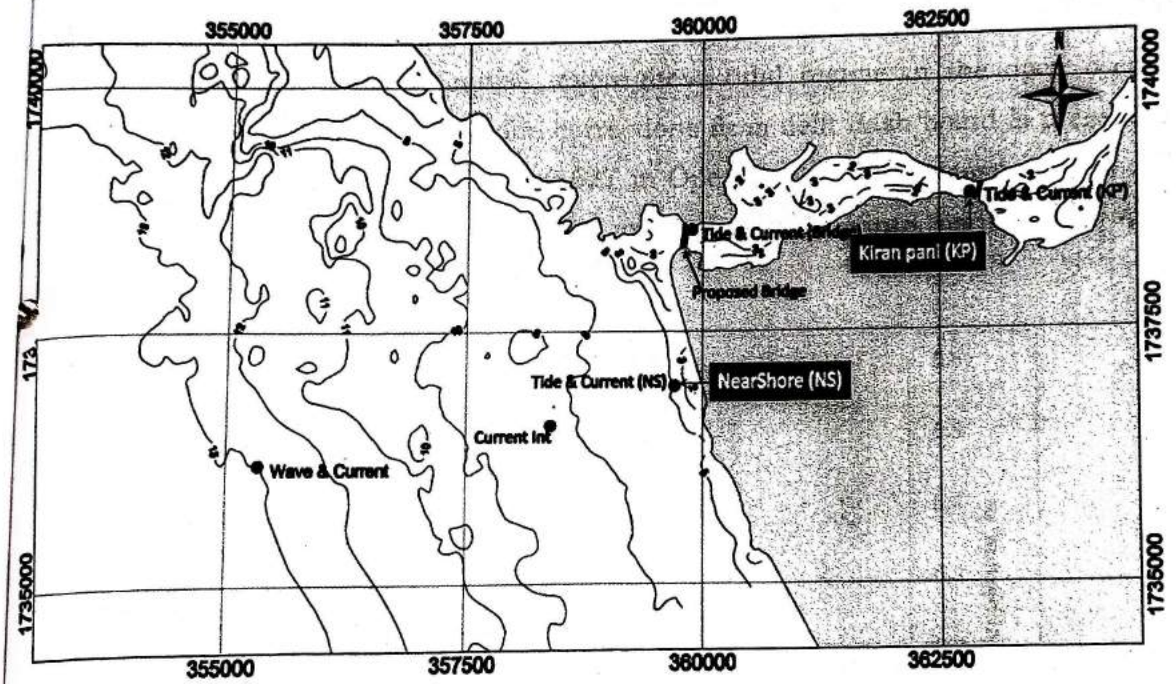

355000
357500
360000
362500
1740000
1737500
1735000
Tide & Current (KP)
Tide & Current (Bridge)
Kiran pani (KP)
Proposed Bridge
Tide & Current (NS)
NearShore (NS)
Current Int
Wave & Current

Figure 14 - Location of field observations

Table 1 – Details of field observations at proposed site.

Sl. No	Instrument type	Deployment type	Location	Deployment starting date	Deployment ending date
1	Tide KP	Bottom Mount	15° 43.458' N 73° 43.188' E	11/11/2015	27/11/2015
	Current KP	U -Mooring		11/11/2015	27/11/2015
2	Tide Bridge	Bridge Mount	15° 43.272' N 73° 41.539' E	10/11/2015	27/11/2015
	Current Bridge	Bridge Mount		13/11/2015	27/11/2015
3	Current	Boat Hanging	15° 43.253' N 73° 41.533' E	15/11/2015	17/11/2015
4	Discharge (Rio-Grande)	Boat	15° 43.272' N 73° 41.539' E	13/11/2015 & 18/11/2015	13/11/2015 & 18/11/2015
		Boat	15° 43.458' N 73° 43.188' E	14/11/2015 & 19/11/2015	14/11/2015 & 19/11/2015

5	Bathymetry	Single beam	mouth to 6km upstream	15/11/2015	16/11/2015
6	RTK	GPS	2km on Querem beach from the river mouth	10/11/2015	12/11/2015
7	Wave & Current	Mooring	15° 41.981' N 73° 38.990' E	13/10/2015	12/11/2015
8	Current Int	Mooring	15° 42.420' N 73° 41.442' E	13/10/2015	12/11/2015
9	Current NS	Mooring	15° 42.198' N 73° 40.707' E	13/10/2015	12/11/2015
12	Off shore Bathymetry	Single beam	Shown in Figure 14		

.1.1 Tides

Water level

The site is primarily in mixed, micro-meso tidal regime in the open ocean. Constituent data with Topex - Poseidon corrections from delft dash board is presented n Figure 15. The form factor is about 0.627 in Open Ocean. Tide measurements are carried out in the open ocean, near the mouth and the Kiran pani bridge. The statistics of the observations are provided below.

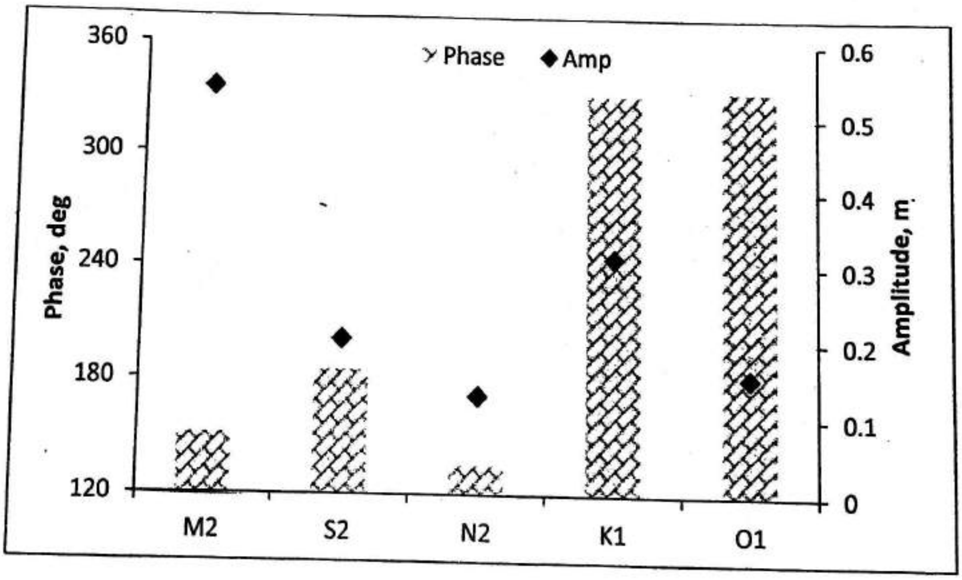


Figure 15 - Open ocean tidal constituents, source - T/P corrected GOT model

Table 2 - Observed tidal characteristics of the site

Station Id	Tidal range		Form factor	Description
	Spring	Neap		
NS point	2.43	1.074	0.627	At 5m depth in open ocean
Bridge point	1.66	1.043	0.587	At 3.5m depth in the vicinity of mouth
KP point	1.73	0.954	0.582	At 6 m depth near the bridge

rrents

Tidal currents unlike tidal water levels have a principal direction about which hey oscillate in addition to the variation in magnitude. Thus each constituent would ave a direction of maximum current and also minimum current, which ideally would ook like an ellipse. Super position of all constituents with proper phase information vould yield the tidal current at the required point of time. The extracted current onstituents are tabulated in Table 4.

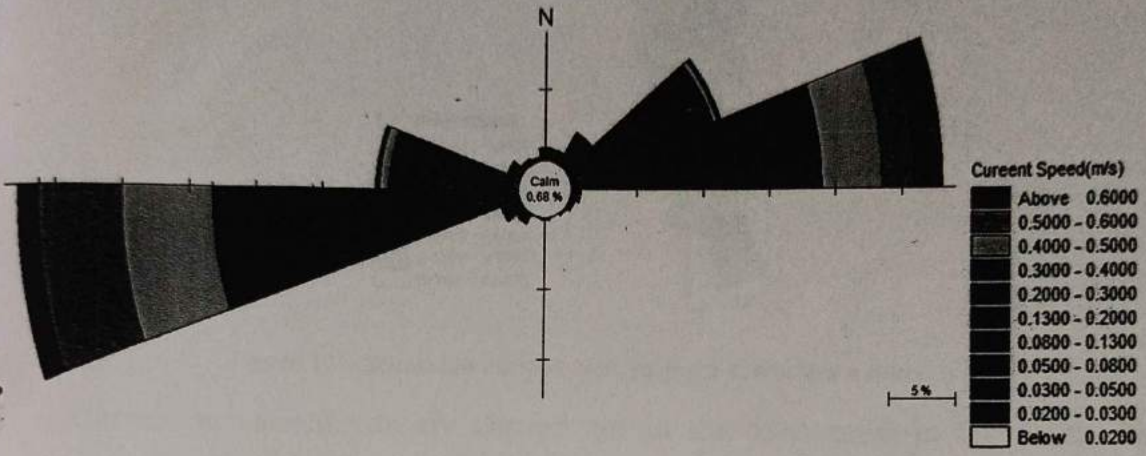


Figure 16 - Current rose, at inlet channel near northern pillar

Table 3 - Spring current characteristics

Station Id	Speed, m/s	Direction, degrees	Water level, m
NS point	0.138	4	1.060
Bridge point	0.484	264	1.013

Table 4 - Tidal current constituents at the Kiran pani bridge

Name	Major	Minor	Inclination	Phase
K1	1.38E-01	8.00E-03	170.9	72.3
M2	3.90E-01	2.00E-03	167.1	279.0
M3	3.40E-02	-7.00E-03	164.6	239.7
M4	3.10E-02	-1.10E-02	8.5	222.0
2MK5	1.60E-02	-6.00E-03	178	96.2
2SK5	1.50E-02	0.00E+00	4.5	116.9
M6	3.00E-02	-4.00E-03	162.8	334.9
3MK7	1.10E-02	-2.00E-03	149.5	281.7

M8	5.00E-03	-1.00E-03	49.1	188.8

3.1.2 Near-shore Currents

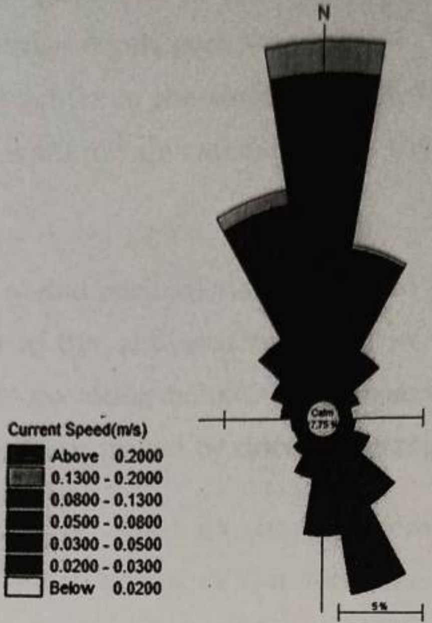


Figure 17 - Nearshore current rose during fair weather season

Current measurements are carried out in the open coast at 5m depth. The coastal currents are in the range of 0 - 0.25 m/s, with a mean of 0.05 m/s.

3.1.3 Bathymetry

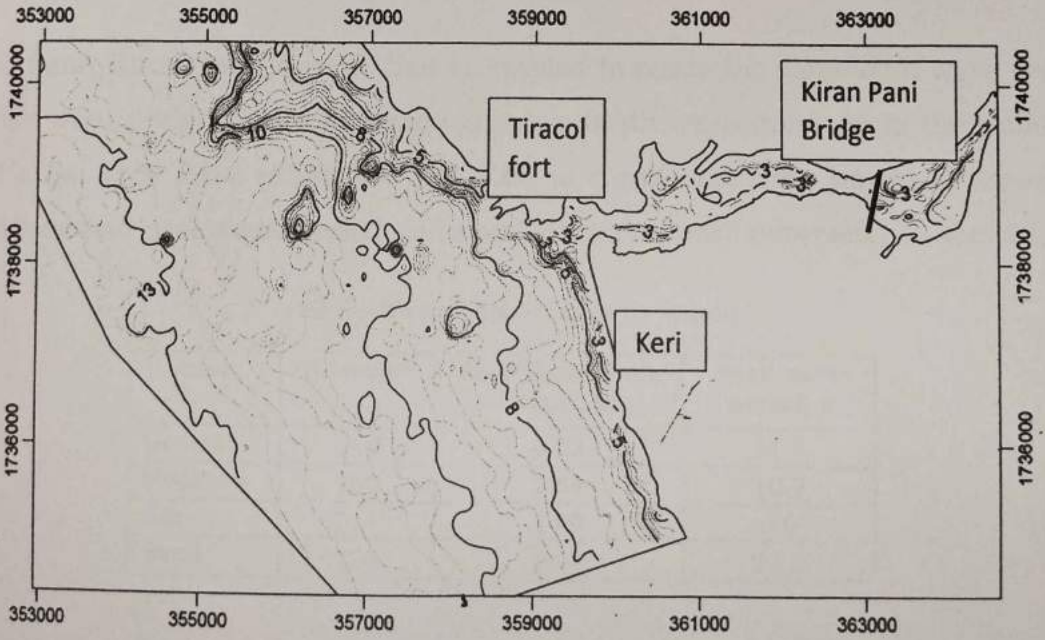

353000
355000
357000
359000
361000
363000
1740000
1738000
1736000
Tiracol fort
Kiran Pani Bridge
Keri
10
8
5
3
13
0

Figure 18 - Surveyed bathymetry contours

Bathymetry surveys provide an insight on the local sea bottom gradients. It can e seen from Figure 18 that the estuarine portion is shallow with an average depth of m. But there exist a deeper pocket at Kiran pani bridge, constriction between two ays like features where average depth goes up to 6.5m. The contour in the coastal egion are shore parallel and gentle on the southern side, where as steep profiles with ock outcrops, possible land ward terrain extensions, on the northern side.

Shallow depth

1.4 Wave Characteristics

Waves are very short period oscillations with period between 2 - 20 seconds in eneral. They heavily influence the sediment transport in the surf zone and directly re the reason for erosion or accreting behavior of a coastline. Waves act about the nstantaneous Mean water level controlled by tides of the region and surges if any.

The Arabian Sea is peculiar about its choppier seas. Monsoons are dominant ith an average significant wave height of 3m westerly about 10 sec peak wave eriods. Fair weather seasons have mild swell from southern Indian Ocean with local eas developing randomly from NW winds. The wave roses for the site are presented in gure 19 and Figure 20 from the data downloaded from global WWIII output, hosted y University of Hawaii. The data set from Jan 2011 to Dec 2014 is subject to lassification based on slope parameter H_s/T_p for seasonal characteristics. The tatistics and classes of data are presented in Table 5.

Kumar, Kumar and Anand, had attempted to relate the significant wave heights with peak wave periods for observations during south west monsoon in the vicinity of present area. They have estimated that 1.63 m significant wave height is associated with a 10 second peak wave period and spectral peakedness parameter is about 1.45.

Table 5 – Wave characteristics by season

Case	Direction	Significant wave height, m	Peak wave period, s
General	240	0.82	11.5
Monsoon	260	2.54	10.2
Sea	314	1.00	5.6
Swell	220	0.67	13.3

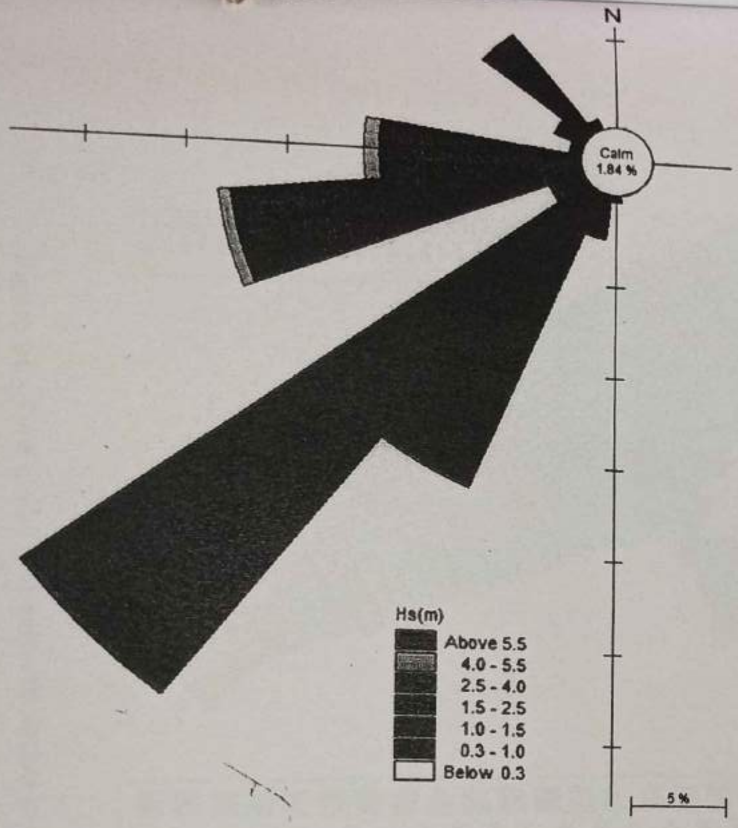


Figure 19 - Wave height rose for the site, source -WWIII

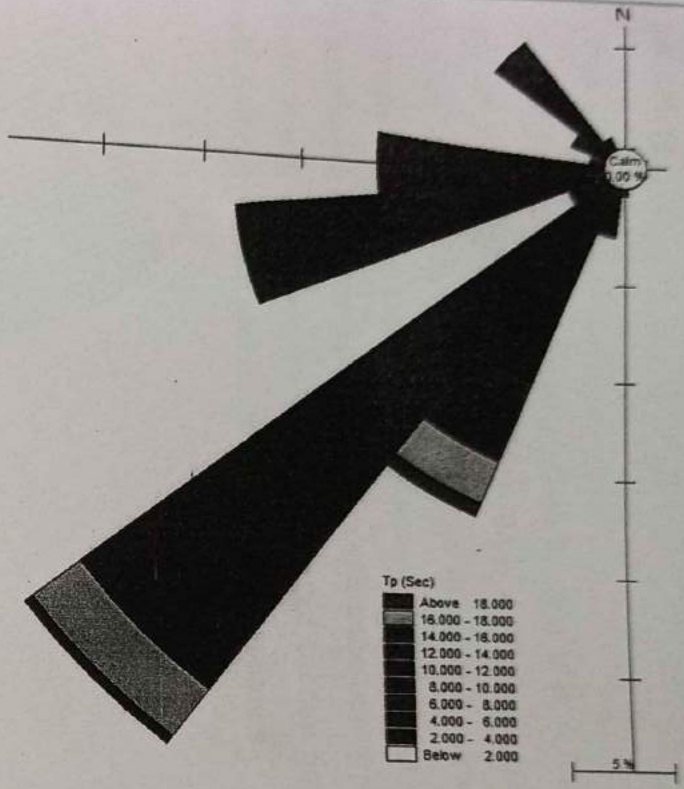


Figure 20 - Wave period rose for the site, source -WWIII

Modeling

.1 Flow

The flow model is setup on Delft3D, which is a finite volume curvilinear grid doptable numerical solver code. The deep water boundary condition can be forced ith time varying tide reconstructed from the global astronomical tidal constituents. he lateral boundary conditions are achieved with Neumann type boundaries with ero gradients. Riemann type boundary conditions are applied on the river head side, r ease of use in 3D models. Manning's based friction accounts for the depth based ariation of conveyance and is thus utilized in the model.

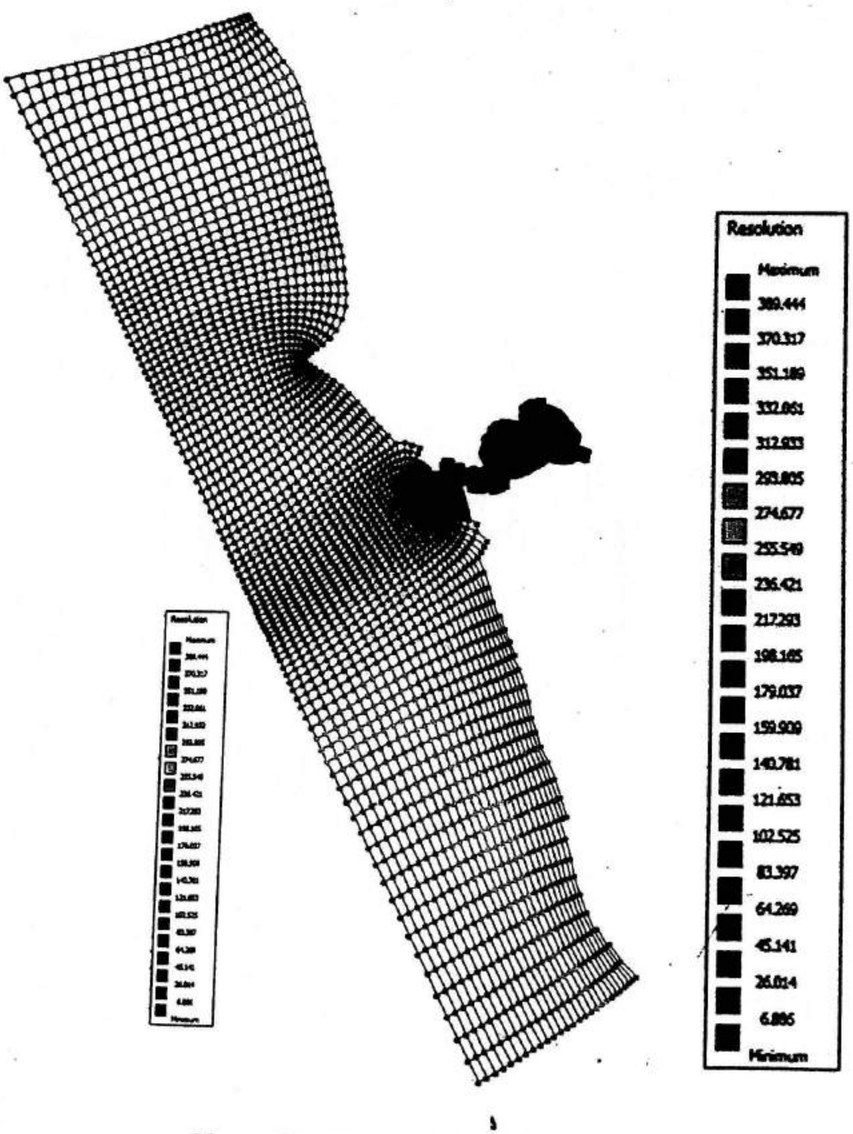

Resolution
Maximum
389.444
370.317
351.189
332.061
312.933
293.805
274.677
255.549
236.421
217.293
198.165
179.037
159.909
140.781
121.653
102.525
83.397
64.269
45.141
26.014
6.886
Minimum

Figure 21 - Flow model grid with resolution in color scale

The model domain, shown in Figure 21, is limited to few meters sea ward from Kiran Pani Bridge to reduce non-physical oscillations. The model is run in 2d mode for the calibration phase and a manning coefficient of 1/20 is used in the estuarine portion and 1/32 in the coastal zone. Monsoon model is based on a 3D model for the entire domain. Wave model runs in tandem with the flow model at every 1 hour interval.

Validation

The measurements at the Kiran Pani Bridge are incorporated as boundary conditions. Hence a 2D model is calibrated with Manning's friction and validated for measurements at the mouth. The measurements have high frequency oscillations, owing to wind gusts, which are not included in the numerical model. Moreover, wave conditions are expected to remain stationary over an hour, which otherwise would need very tight wave flow coupling, which is computationally intensive.

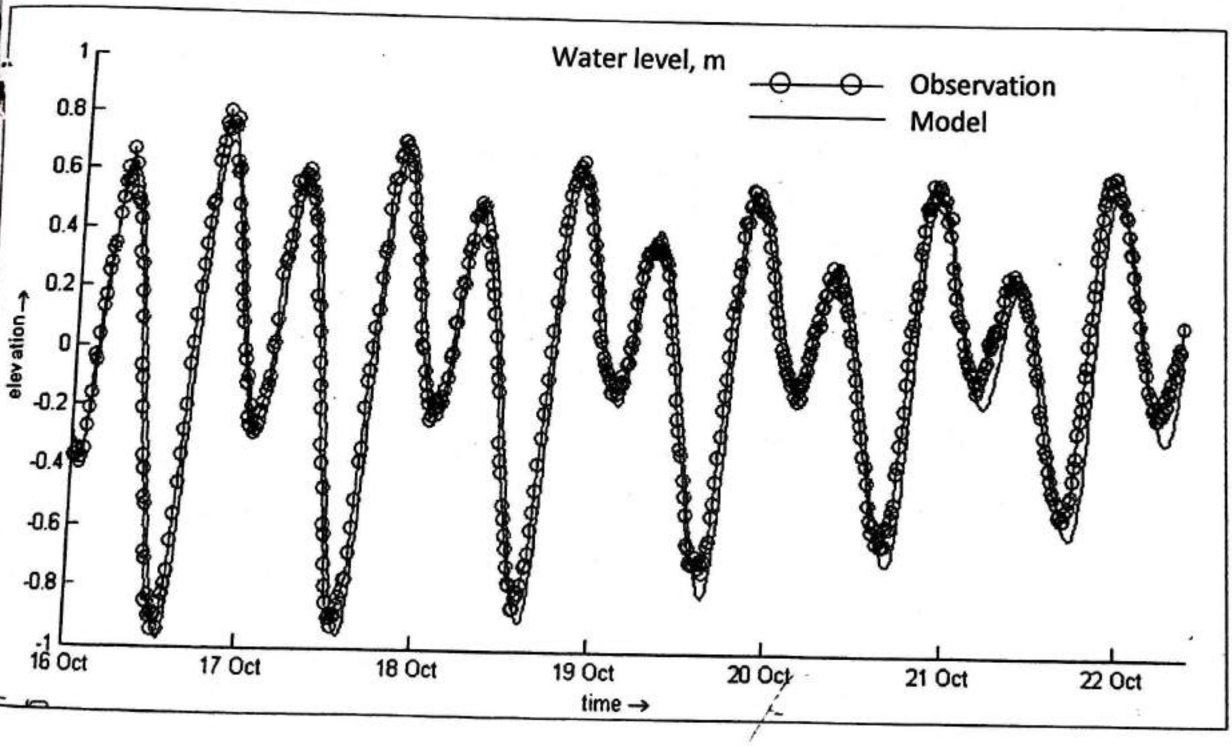


Figure 22 - Comparison of Water elevation at NS point

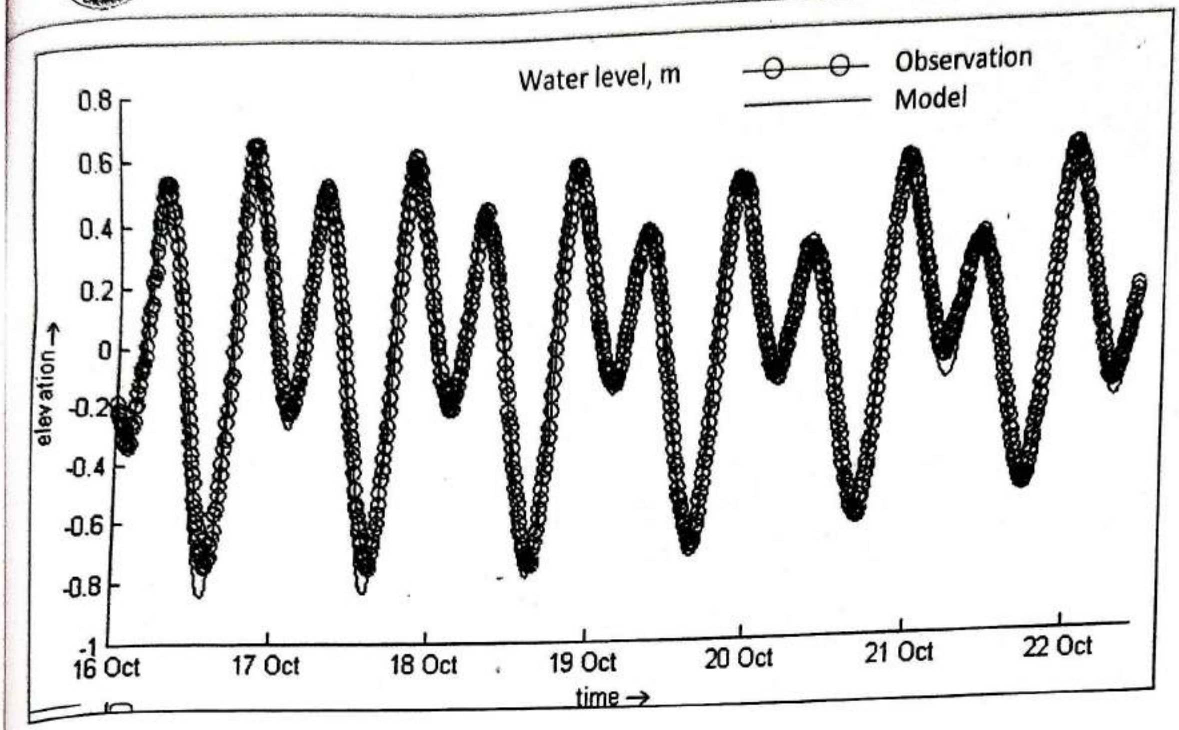


Figure 23 - Comparison of water level at Bridge point

.2 Wave

A spectral wave model is setup with state of the art SWAN model with the delft interface which also transfers ambient current and depth information from flow model. Grids are prepared in coast following curvilinear grid system for wave computation. A finer grid developed over the mouth and river channel is nested into the outer wave domain for enhanced resolution. The outer grid has a resolution of 111 m. The grids at various levels are presented in the Figure 24.

The offshore boundary is driven with the deep water integral wave parameters derived from global WWIII model. The calibration of wave model is carried out with Madsen eddy viscosity type dissipation coefficient. Triads, bottom slope based wave breaking and Westhuysen based white capping are chosen in the model. Diffraction of waves by structures is not considered in the present model, owing to the numerical complexity and requirement of a very fine resolution model.

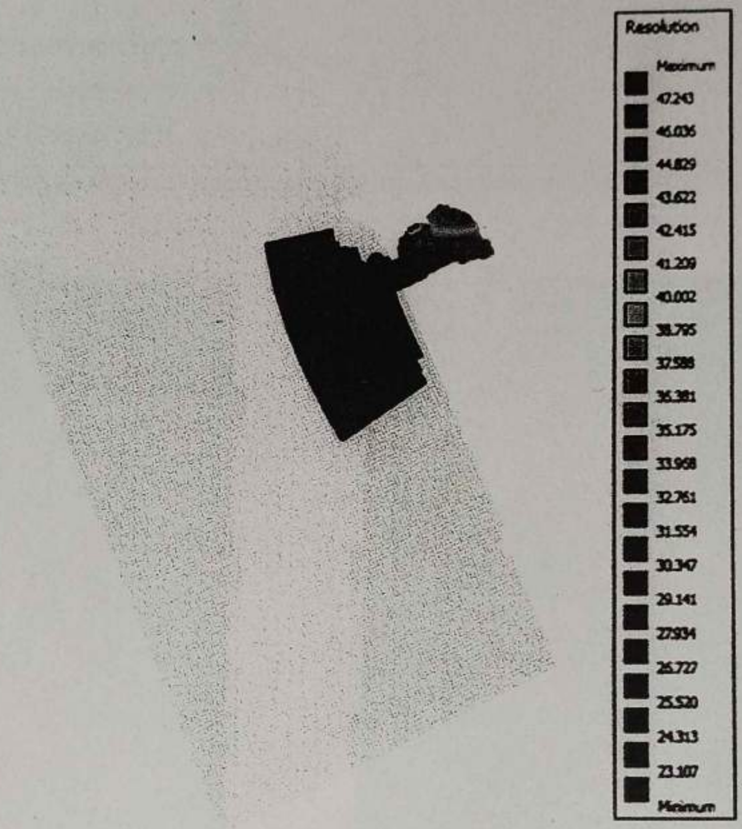

Resolution
Maximum
47.243
46.036
44.829
43.622
42.415
41.209
40.002
38.795
37.588
36.381
35.175
33.968
32.761
31.554
30.347
29.141
27.934
26.727
25.520
24.313
23.107
Minimum

Figure 24 - Grids prepared wave model with resolution

3.2.3 Sediment transport and morphology

Veerayya *etal.,* 1981 studied beaches of goa and concluded that the littoral drift s toward north for SW swell, south for WNW waves and oscillatory, converging and erging for W and WSW waves for nearby sites. They had identified that the morphological variation is cyclic and closed over a year. Also, erosion is severe from onset of SW monsoon and accretion with disturbance by NE monsoon during fair weather seasons for this area. This is visible from Figure 26 and Figure 27. The spit size is a function of sediment availability and estuarine flow velocities.

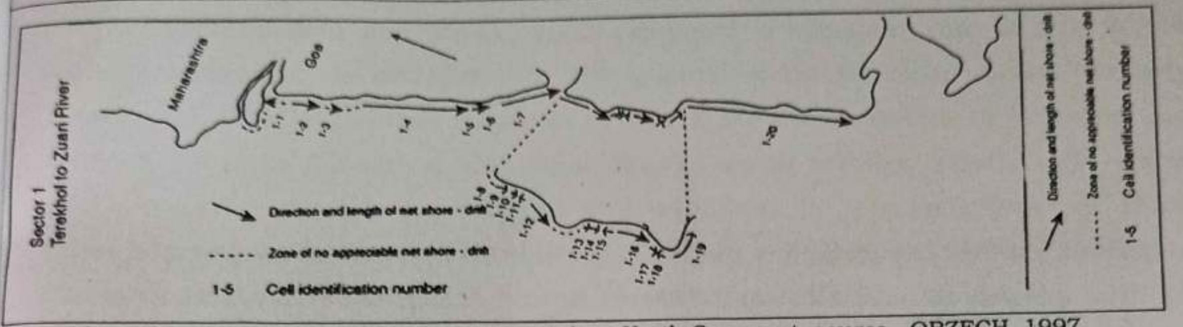

Sector 1
Terekhol to Zuari River
Maharashtra
Goa
1-1
1-2
1-3
1-4
1-5
1-6
1-7
1-8
1-9
1-10
1-11
1-12
1-13
1-14
1-15
1-16
1-17
1-18
1-19
1-20
Direction and length of net shore - drift
Zone of no appreciable net shore - drift
1-5 Cell identification number

Figure 25 - General net sediment movement along North Goa coast, source - ORZECH, 1997.

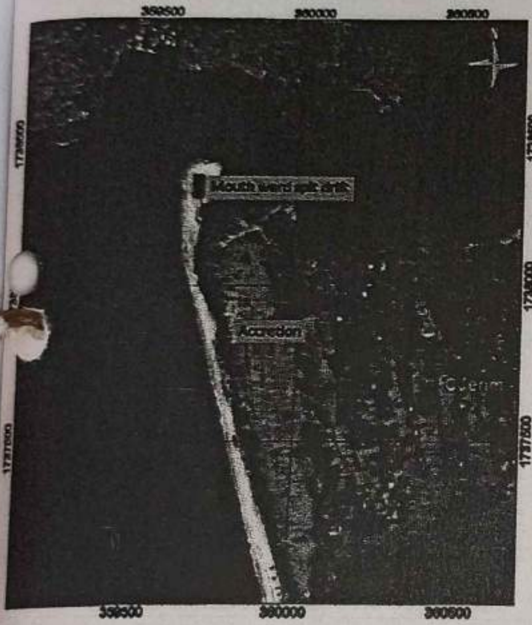

359500
360000
360500
1738500
1738000
1737500
Mouth ward spit drift
Accretion

Figure 26 - Pre monsoon beach configuration, 14 March 2014

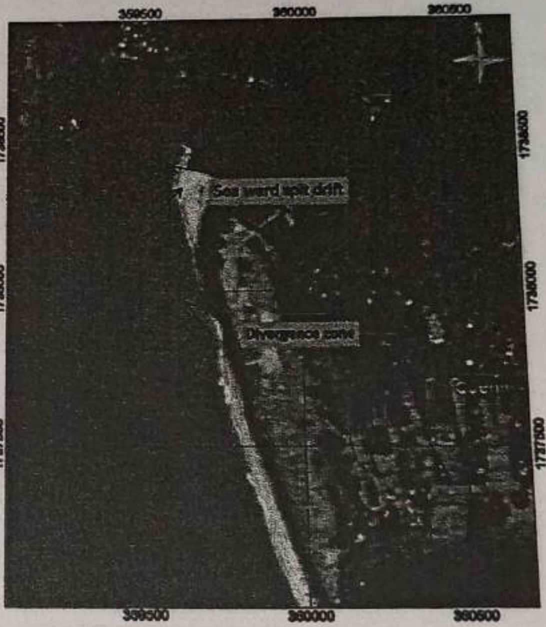

359500
360000
360500
1738500
1738000
1737500
Sea ward spit drift
Divergence zone

Figure 27 - Post monsoon beach configuration, 6 November 2014

A clear cell structure of sediment movement is established by Kunte, 1994 using Landsat and aerial photographs by methods of landform indicators. They used sediment plume direction to estimate net movement of the grains and confirmed southward drift in general with variations at places of headlands and river mouths. Orzech, 1997 has further refined the coastal sediment transport classes with higher number of cells. The transport near the Tiracol mouth and it's out of phase variation from southern beaches is shown in Figure 25 and supported by Figure 26 and Figure 27 satellite imageries.

175

Chandramohan and Nayak, 1992 estimated a transport rate of 0.53 X 10^6 cu.m/year northwards and 0.820 X 10^6 towards south for Goan coast. Similarly Anand *etal.*, 1991 found that transport is 0.41 X 10^5 cu.m /month in monsoon and 0.055 X 10^5 cu.m / month during other months on an average. Kunte, 1994 states that pro-grading beaches are supplied with sediments by retreating beaches. There exists heavy variation of erosion and deposition even in continuous stretches owing to transport direction. According to Brunn classification, the present estuary with an expected area of 4.75 sq.km would fall into, with a factor of 16, scenario of closure by a bar, very shallow to wide shallow ocean bar.

The sediment suspension regime, thus onshore offshore transport of a site can be estimated from the Dean number. Its variation with a constant grain size and a settling velocity of 4 cm/s over various deep water wave climate classes is presented in Table 6. Higher dean numbers than critical of 2.25 are associated with sediment suspension and offshore drift.

Table 6 - Dean number for various wave climates

Case	**Dean no**	**Transport**
General	1.7875	On shore
Monsoon	6.2327	Offshore
Sea	4.3649	Offshore
Swell	1.2513	Onshore

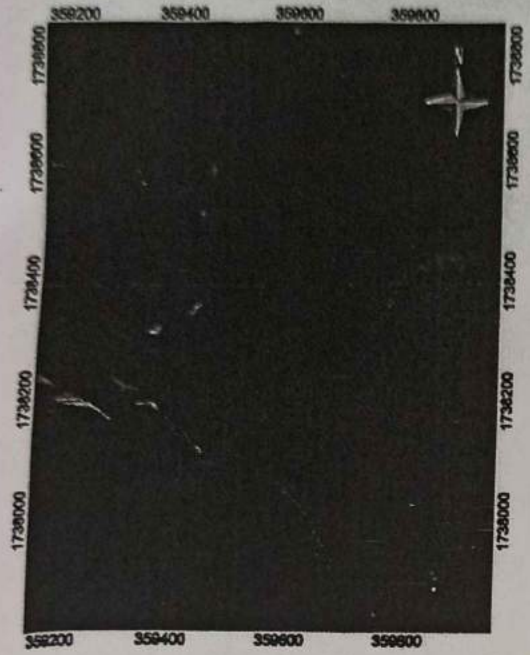


Figure 28 - Submerged bar, April 2013

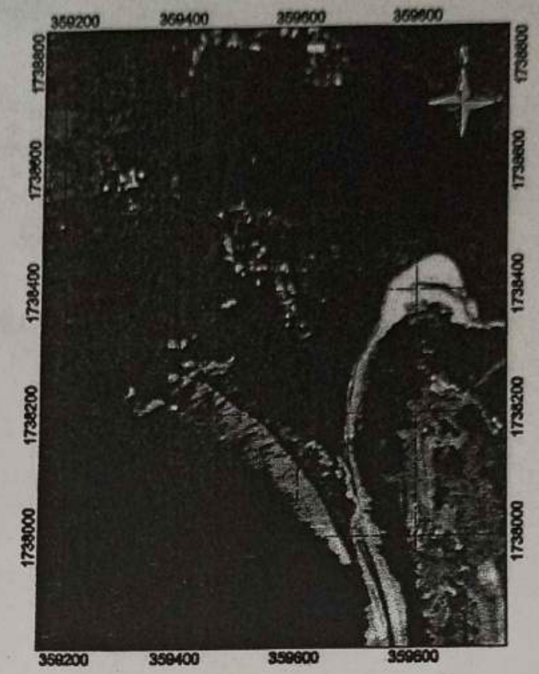


Figure 29 - Submerged bar, March 2015

Krauss has worked extensively on spit growth and formulated a relation between sediment transport rate and the spit length for spits restricted by presence of inlet channel based on sediment volume balance. The shortest spit closure path would be in NNE direction, but the usual submerged bar growth is in WNW direction. The shortest distance between bank protections on south by tetrapods to center of the channel is about 195 m, but 450m in the bar progression direction. The coast line angle of Colva, Calangute and Keri beaches are almost similar, oriented by about 345° from North. Assuming the beach length of 1.5 km at Keri would supply enough sediment for an unlimited spit growth, with a northern sediment drift, the maximum possible growth till migrated channel center, is calculated as, 375 – 400 m (ERDC/CHL CHETN-IV-44, June 2002) from rigid coast line on the south. It would ake over 2 decades for such a formation and with absence of tidal action. The said rmation in the area is already saturated in the present condition, can be seen in both Figure 28 - Submerged bar, April 2013 and Figure 29 - Submerged bar, March 2015. Since the estuary is abutted by hilly terrain on the northern bank, the channel migration further north is not possible and is set by tidal current.

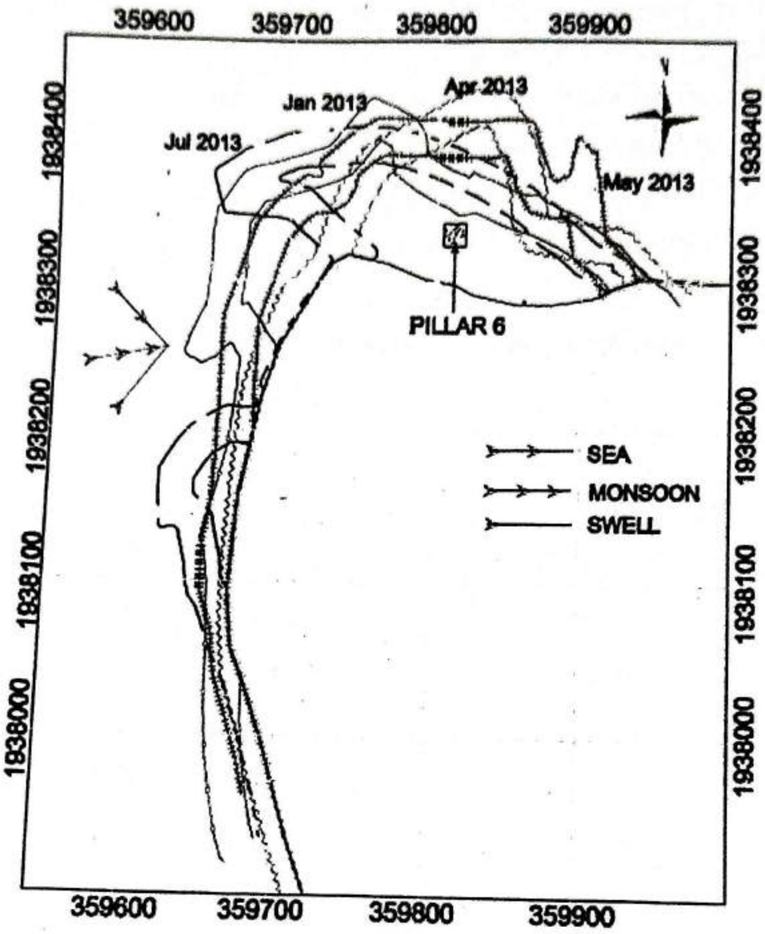

359600
359700
359800
359900
1938400
1938300
1938200
1938100
1938000
Jan 2013
Apr 2013
Jul 2013
May 2013
PILLAR 6
SEA
MONSOON
SWELL

Figure 30 - Shoreline and dune line by various months of 2013

DUNE

Rajasekaran *etal.,* 2014 had attempted to study the sand spit and shore line dynamics of the Querem beaches. They have established that during 2010-11, the site had a decent accretion and severe erosion by the following year. There were various phases of shore line oscillations in the subsequent years and a net erosion of 10 m is apparent. The maximum height of dune observed by the authors is about 2m at the pit, marked in Figure 30.

The sediments in the present case are found to be medium sand of 340 μm ized and a uniform size is adopted irrespective of the tidal condition to keep the odel simple. Van Rijn's, 2004 formulation, which accounts for bed load and uspended load simultaneously, has been used in the model. Edwin *etal.,* studied the ar mouth on the west coast of North America and validated that majority currents nfluencing the morphology are semi diurnal and their over tides. Moreover, the time scale of bottom bed changes are slow, but proportional compared to the hydrodynamics. Hence a morphological acceleration factor is accounted to convert a simulation over spring/Neap tidal cycle to the seasonal contribution. Also, Rapid assessment of morphology is taken up with an assumption of superposition of morphological changes by various hydrodynamic conditions over a season. This implies simulations for various conditions are run in parallel and the net bed changes are estimated accounting all of them with duly assigned weight age and fed back to all models to incorporate changes in hydrodynamics.

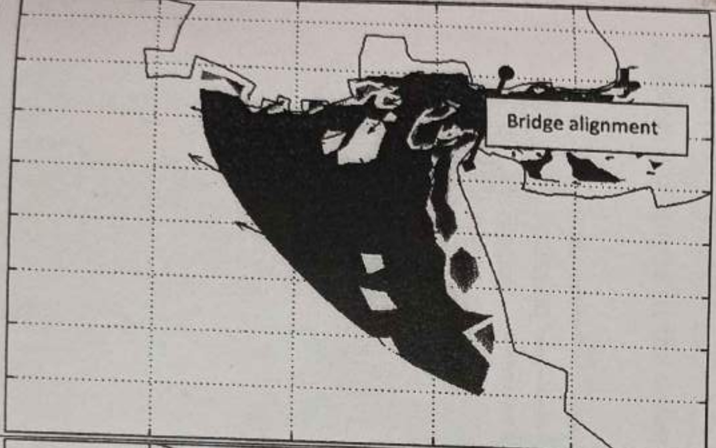
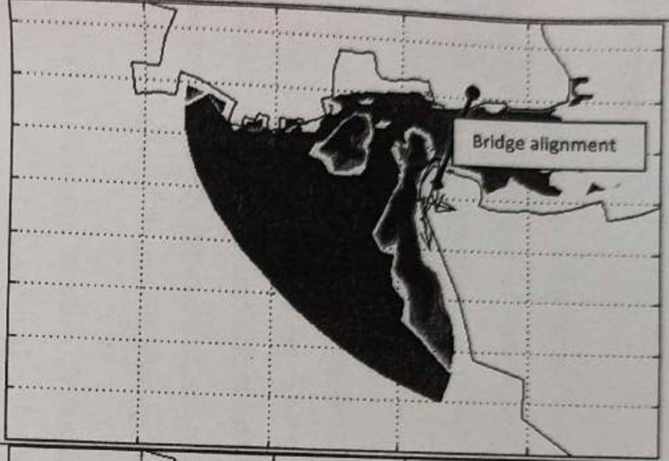
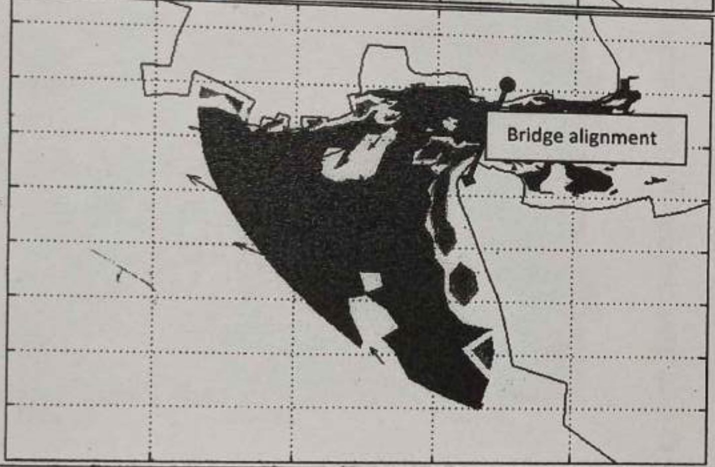
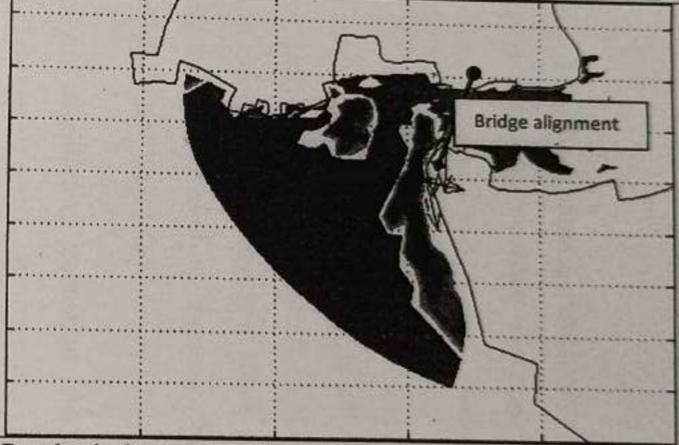
3.2.4 Seasonal Scenarios

The cases for an extreme monsoon run off is based on the river discharge for a 200mm rainfall Similarly assessment is carried out for fair weather season with swell and local seas generated in a larger wave grid for major NW wind classes and their period of occurrence. The wave model grids are nested into a 500 X 111 km outer grid th a resolution of 2.7 km. The weight ages in the numerical model, detailed in Table re scaled to form a sum of unity.

Table 7 - Non Monsoon Morphology input data cases

Sl. No.	Wind	Wave	Weightage
1	NNW	Local Sea	0.1000
2	NNW	Swell	0.3299
3	SSW	Swell	0.0728
4	NE Seaward breeze	Swell	0.0753
5	SE Seaward breeze	Swell	0.0890

The pillar 6 is introduced into the numerical model as bridge elements. Since he grids in the model are coarser and equal to the size of the pile cap, the energy loss oefficient is estimated for the blockage of flow by columns alone and is incorporated a quadratic friction. The loss coefficient is estimated to be around 60% after aday and Charlton, 1983 for the given description of pile structure. The wave ansmission is about 90% and reflection 9% for the same, after fume experiments by eele and Herbich, case I - b and c sets.

Scenario	Fair weather period	Monsoon Event	Legend
Sea bed changes - without structure	 Bridge alignment	 Bridge alignment	1 0.8 0.6 0.4 0.2 0 -0.2 -0.4 -0.6 -0.8 -1
Sea bed changes - with structure	 Bridge alignment	 Bridge alignment	1 0.8 0.6 0.4 0.2 0 -0.2 -0.4 -0.6 -0.8 -1
Remarks	Sea bed changes with sediment transport vector (Fair weather)	Sea bed changes with sediment transport vector (Monsoon)	

4. Observations

The analysis of long term data with satellite imageries indicate that pillar 6 is normally submerged in sandspit due to natural processes. However, occasionally there could be exposure of pillar 6 due to high fresh water discharge from the catchment.

The maximum anticipated depth at bridge pillar 6 is 0.8 m which may occur during high river discharge. The simulations were conducted to this worst case scenario for fair weather and monsoon conditions. Under the above condition, the effective area of obstruction at pillar no.6 is 3.84sq.m against the total cross sectional area of channel 900sq.m, which is not significant.

The simulation studies indicate no significant accretion during monsoon season. But during fair weather from October to April, an accretion of 10 to 20m is noticed around the pillar location. The flow simulation with this condition indicates no significant changes in the water exchange between estuary and Open Ocean.

Accretion

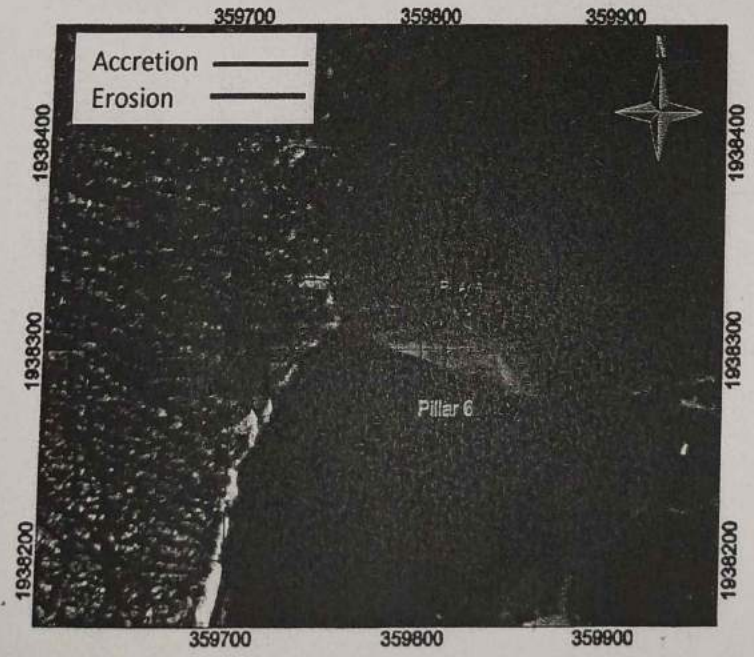


Figure 31 - Zones of possible morphology changes induced by pillar 6

5. Recommendations

- Increase in the elevation of pile cap by 1m above high flood level to allow natural movement of the sand.
- Monitoring of the morphological changes of sand spit at the bridge pillar no. 6 at closed interval to study the seasonal and long term variability.
- Monitoring the shoreline changes up to 2km on either side of the pillar no.6, both in open coast as well as estuary.

6. References

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Annexure A-22

BEFORE THE NATIONAL GREEN TRIBUNAL AT PUNE

APPLICATION NO. 33 OF 2015

Between

THE GOA FOUNDATION ... ...**APPLICANT**

And

GOA STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY & ORS ......**RESPONDENTS**

AFFIDAVIT OF THE GOA FOUNDATION IN RESPONSE TO THE NIOT REPORT

I, Dr Claude Alvares, Secretary, applicant abovenamed, aged about 67 years, r/o Parra, Bardez, Goa, do hereby solemnly affirm and declare as under:

1. I have been provided with a copy of the NIOT report dated 17.2.2016 on the proposed Tiracol bridge and its impact on the Tiracol estuary. I have read the report and understood its contents. I have also studied its findings in the context of the Work Order which was shown to the Applicant and with whose terms of reference we concurred. I have also perused again the interim report submitted earlier on 30.11.2015 which gave an indication of the direction in which the study was then progressing. My comments on the reports, given below, are the submissions of the Applicant Organisation, The Goa Foundation, which I represent.
2. At the outset, I wish to state that the final report indicates that the NIOT has considerably reduced the scope of the study that it had agreed to carry out, since the final report focusses solely and exclusively on the impact of construction of pier 6 on the spit on the southern side of the river mouth, and not on the impact of both the proposed piers to be constructed in the Tiracol river and their impact on the fragile estuarine area. The final report does not display that any effort was made to study the impact of the bridge construction with both pillars or pylons on the estuary in the long term.

3. In order to make this clear, I reproduce below the terms of the Work Order of the proposed study that was assigned to the NIOT under the subject title "Design and Construction of Bridge connecting Keri to Tiracol over river Tiracol including approaches – Study of Hydrodynamics and Morphological change at Tiracol Estuary." The Work Order, which is based on the order dated 17.4.2015 passed by this Hon'ble Tribunal, encompassed the following terms:

   a) Tide measurements especially at the two pylon locations.

   b) Current measurements, Wave measurements, river discharge, bathymetry, etc.

   c) Shoreline mapping for both sides of river bank at the two pylon locations.

   d) Hydrodynamics, wave and sediment transportation to evaluate the flow condition with and without the presence of bridge pylons.

   e) Any other measurement/study which the NIOT, Chennai feels necessary for the completion of report.

4. Thus, the Work Order clearly indicates that the NIOT study would deal with the impact of both proposed pillars, their shoreline impact, sedimentation and report of the flow of the river with and without the proposed pillars to examine long term effect of the proposed bridge on the estuary. Copy of the work order is at **Annexure A** to this affidavit.

5. In fact, the interim report did make some comments on both the proposed pillars, which led the applicant to believe that the study was proceeding in the right direction. The title of the interim report in fact reads as follows: "Studies on morphological impact by planned bridge piers on Tiracol river mouth, Goa." Page 6 of the interim report also notes that "the proposed suspension bridge will have two main columns into the bed, near shore, on either banks of the mouth."

6. Between the interim report and the submission of the final report, a unilateral decision appears to have been made by the NIOT to focus solely on the impact of construction of pier 6 on the spit on the southern side of the river mouth. There is no longer any effort made to study the impact of the bridge construction with both pillars or pylons on the estuary in the long term. Instead, NIOT appears to have got into a frame of mind to concentrate its efforts only on

pillar No. 6., i.e., the pillar proposed to be constructed on the spit. This obvious deficiency in the final report ought to have been brought to the notice of the NIOT by the GSIDC. The GSIDC has received the NIOT's report at the same time as the applicant has received it, since the NIOT sent copies directly to the NGT, from where the parties to the application have obtained copies.

7. Applicant submits that if the GSIDC has not found out this deficiency and/or not taken any action on the same, it is perhaps because NIOT's report has basically sought to legitimise construction of the pillar No.6 on the spit which is as per the GSIDC's proposed plan of construction. The location and alignment is under challenge in the application as it is in violation of the CRZ notification.

8. Some of the NIOT's comments on the site as per its interim report are the following:

- The site is identified as seasonally varying wide sandy beaches with spit at the mouth of the river. The beaches were subject to heavy monsoon wave climate from the Arabian sea and are prone to severe erosion.
- The proposed suspension bridge will have two main columns into the bed, near shore, on either banks of the mouth.
- Longshore drift is a transport of sand parallel to the coast in the beaches, when waves attack them at oblique angle. Spits are bars formed by deposition of longshore drift by destabilised carrying capacity, when an opening inland or similar feature is encountered.
- Jayakumar et al, 2014, were already involved in long term observation of the spit dynamics at the site and have concluded that the spit is unstable by ensuing wave climate on the west coast.

9. These initial comments seem to have been considerably watered down and the NIOT's conclusions in its final report on the impact of the spit on sedimentation and river flow are summarised as below:

> "The dimensions of the bridge pillar are not significant when compared to the natural variation of the sand pit. However, a detailed analysis was conducted to study the migration of sand spit at pillar 6 with respect to the season and its impact. The study indicates that pillar 6 has no influence during monsoon and limited accretion during fair weather,

when estuary is wide opened. The flow simulation with accretion at pillar 6 shows no significant changes in the exchange of flow between estuary and the open sea. As a precautionary measure, it is recommended to increase the pile cap elevation by 1 m above highest flood level (HFL) to avoid blockage of sediment, if any in future." (Executive Summary).

10. The impact of the bridge pier No.6 is provided in two places in the report with two different sets of data:

a) On p.12, the NIOT report states: "The pillar No.6 with a projected area of 4.8 sq.m. m/m depth across the ~~floor~~ flow is small compared to the mouth dimension of 200 m approximately."

b) On p.31, the same report states: "Obstruction of pillar No.6 is 3.84 sq.mts., across the total cross sectional area of the channel 900 sq.mts, which is not significant."

Applicant states that these two measurements are of the same area and appear to emerge from two separate authors. The area of the second pylon and its location in the actual bed of the flowing river is not considered.

11. Admittedly, the conclusion does not include the impact of pillar 7 on the tidal flow, since the pillar is due to be constructed at a distance of approximately 20 metres from the base of the hill of Tiracol on the northern side, but well within the river bed, in contrast to pillar No.6 which is proposed to be constructed on a spit (which also periodically disappears from view). Hence the study is, for this reason, only half done and therefore incomplete.

12. The report makes three recommendations. One is to increase the elevation of the pile cap of pillar No.6 by 1 m above high flood level to allow natural movement of sand. The second and third recommendations are to monitor morphological changes of the sand spit at the bridge pillar No. 6 at close~~d~~ interval to study seasonal and long term variability and to monitor the shoreline changes up to 2 km on either side of pillar No. 6 both in the open coast as well as the estuary. These latter two recommendations appear to indicate that the NIOT itself is not confident of its own conclusions that there will be no significant changes from the construction of the pier on the spit. Applicant also raises the issue of: to what purpose the monitoring after the pier is constructed? The damage by then will have been done and will be irreversible. Hence it is necessary that a thorough E/A and proper study be completed before coming to conclusions that the pier can be constructed and thereafter asking for

monitoring of its impact. It is for this reason that these recommendations are not acceptable to us since in our own limited survey of bridges worldwide, there is no such construction made on a dynamic spit (in fact, a sand dune) which the NIOT itself admits, relying on studies, is fundamentally unstable.

13. Not only is the instability admitted in the interim report, the dynamic nature of the sandy spit is indicated in Google images annexed by the Applicant in his affidavit of April 2015. Applicant therefore stands by the apprehensions raised by him in the said affidavit filed by him in April 2015. In contrast, while the applicant has presented Google images from the last decade as well, NIOT has for some reason relied only on 2014 and 2015 images. For a long term study, the organisation ought to have taken a longer view of the evolution of the spit. Even the limited Google images included in the report from March 2014 to December 2015 (pp. 13-14) show vast changes practically every month in the sandy spit formation.

14. The NIOT report has definitely not considered the "worst-case" scenario that could impact the bridge itself and/or the local geomorphology. Pier 6 is located about 30 metres from the Keri dune vegetation line or permanent shoreline. Considering this gap, the report ought to have considered the impact of a swollen river in spate which could isolate the pillar completely from the shore. This is because the spit is highly vulnerable to changes. In such an eventuality, the spit would get detached, the sand would be pushed into the channel, and the column itself would become an island. The Google images provided with its affidavit in April 2015 by the applicant (and also by the NIOT report, pp.13-14) show periods during which the spit itself, in fact, entirely disappears.

15. The NIOT report also concludes that the pillar would be on the sand dune itself and that the dune is 2 metres high (p.28). "Location of Pillar no.6 is always in the shallow waters in the wake of spit or on dunes for most of the time." (p.12). Constructions are not permitted on sand dunes, whether dynamic or stabilised, since this would interfere with the dune formation or movement or worse, destabilise and destroy it completely. If done, the ecological functions of such dunes would be extinguished, leading to ecosystem loss. The NIOT ought to have drawn attention to the proposed violation of the CRZ notification, which is in fact subject matter of the application.

16. The other column (pillar 7), whose impact lies unexamined in the report, as per what the applicant has been able to ascertain is to be located close to the cliff toe on the northern side of the river mouth. The Tiracol cliff is prone to erosion and periodic collapse as evidenced by the boulders strewn all over the near-shore zone, from the river mouth to the open sea face. In fact, there is no beach in the entire northern segment of the river estuary since the area is occupied mainly by boulders that have dislodged from the cliff. What could be the impact of drilling / piling at the toe of a vulnerable cliff is not indicated anywhere in the report. In fact, the presence of the unique formation of lateritic boulders all across the northern river bank and their source has been completely ignored in the report.

17. This is a significant issue since at this point, the cliff projects itself into the estuary; there is a sort of protuberance. This means that the column (No.7) will be at the mercy of tidal currents, but more importantly, also the sea waves which propagate into the estuary. Since this column will be located entirely in the water, and more so, at the mouth of the estuary, its effect on the estuarine circulation patterns has simply not been considered. Unfortunately, the NIOT has not provided any reason for the exclusion of the impact of pillar 7 in the report.

18. The NIOT report does not provide a holistic picture of the incremental load of the proposed bridge construction on the Tiracol estuary, considering the latter's fragility. The erosion of the southern river mouth is well established in the report, especially in the interim report (p.11); the degeneration of the tetrapods on the southern extreme of the beach; the reduction of beach side by 10 m (p.28) are all mentioned. This data reinforces the averments made in the application, that this area is already subject to severe erosion, hence the use of tetrapods (which have failed) and the need for a shore-line wall. However, the cumulative impact of additional development in this area is simply not assessed. Either the pillar will contribute to further erosion or changes, or it will not. There is no categorical view expressed in the report, one way or the other.

19. Finally, the NIOT report also does not report on the implications of widespread extraction of sand from the Tiracol estuary towards the hinterland and Kiran pani bridge by illegal sand miners which has continued despite ban orders of this Hon'ble Tribunal. Therefore, it does not make a realistic re-assessment of the supply of sediment actually delivered at the river mouth today when compared with the period when sand mining was sustainable.

20. Thus, from the deficiencies found in the report, it is clear that the impact of the bridge on the Tiracol estuary is yet to be fully established. The fact that NIOT itself recommends monitoring indicates doubt. But more important, I wish to highlight the fact that this bridge in some documents is reported to be under construction for the benefit of the settlement of Tiracol village which has some 50 families. Even if that be the case, it does not justify the massive destruction of the priceless Querim beach (CRZ I) and the threat the bridge poses to the integrity of the Tiracol estuary, that too at a cost of Rs. 77 crores, by the insistence that the bridge be located at the mouth of the estuary. The livelihood of the same villagers, predominantly fishing, stands to be totally decimated, even as one presumes to give them motorable access across the river. There is still time to reconsider the alignment. In fact, applicants have been informally told that the original alignment was never on the beach of Querim, but following the route of the existing road. We have provided on pg. 38 of the application a map showing the access already created by an all-weather road to connect Tiracol to Goa via the Kiran pani bridge. If the bridge must be constructed, a fair EIA conducted would establish whether the present alignment of the bridge and approaches cannot be taken further inward from the estuary point, where there would be, in comparison, much less damage than the present scheme demands.

Solemnly affirmed this at Pune
the 30th day of March, 2016

Deponent

Annexure A-23

AUTHENTICATED COPY

IN THE HIGH COURT OF BOMBAY AT GOA.

WRIT PETITION NO183 OF 2021(F).

THE GOA FOUNDATION,
THR. ITS SECRETARY
AND 4 ORS. .... Petitioners.

VS

GOA STATE ENVIRONMENT
IMPACT ASSESSMENT AUTHORITY
THR. ITS SECERTARY AND 5 ORS. .... Respondents.

Ms. N. Alvares, Advocate for the petitioners.
Shri D. Pangam, Advocate General with Ms. M. Correia, Addl. Govt Advocate for the respondents.

Coram:- DAMA SESHADRI NAIDU &
SMT. M. S. JAWALKAR, JJ.
Date:-11th March 2021.

P.C.:-

The petitioners had the main matter before the National Green Tribunal. Earlier, the matter was with the Pune Bench. But, before the pandemic broke, the Principal Bench at Delhi took up the matters of Pune Bench, too, because of logistical problems at Pune.

2. According to the petitioners' counsel, the petitioner had hardly any time to send their representative to Delhi during the peak of pandemic for defending them. Then, without granting further time to the petitioners, as the allegation goes, the NGT, Delhi, has decided the matter —in the petitioners' absence.

3. In this context, the learned counsel for the petitioners contends that essentially the adjudication by the NGT is ex parte, and that breaches the principles of natural justice. For the petitioners have been denied an adequate opportunity of hearing.

4. Joining the issue, the learned Advocate General points out that the petitioners have an efficacious alternative remedy of going to the same

forum—the NGT, Delhi—and request it to withdraw the impugned order and re-hear the matter. Or they may approach the Supreme Court under section 19 of the NGT Act. Finally, the learned Advocate General submits that the petitioners as well may take advantage of the Supreme Court's directives during the pandemic about the freezing of limitation.

5. We reckon that the petitioner's grievance is genuine. As represented by the learned counsel the petitioners, the NGO pursued the matter diligently when it had been pending with the NGT, Pune Bench, for five years.

6. Then for the reasons not germane here, the Principal Bench NGT at Delhi took up the matters of Pune Bench with one day's notice or so. We reckon the petitioners are justified in contending that they hardly had any time to prepare themselves to go over to Delhi and defend themselves. So, it will serve the ends of justice if the NGT, Delhi, considers the petitioners' plight in the light of the prevailing pandemic. As the respondent has raised a jurisdictional issue, we intend to address no issue on the merits.

Instead, we close the Writ petition, giving liberty to the petitioners to approach the Principal Bench of NGT, Delhi, and highlight the problem they had faced and how it had been diligent in prosecuting the case. In that event, the learned NGT, we hope, will consider the issue keeping in view the Apex Court's directives on the approach the courts and the tribunals have to adopt during the pandemic.

SMT. M. S. JAWALKAR,J **DAMA SESHADRI NAIDU, J.**

vn*

VINITA VIKAS NAIK

Disclaimer Clause: Authenticated Copy is not a Certified Copy.

Annexure A-24

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL , WESTERN ZONE BENCH AT PUNE

Janardhan S. Parshekar
Mapusa Bardez - Goa
Regd. No. 218/10
Expiry Date
29/01/2025

MISC. APPLICATION NO 21 OF 2021
IN
ORIGINAL APPLICATION NO. 33/2015

BETWEEN:
The Goa Foundation
Through its Secretary
G-8, St Brittos Apt,
Feira Alta, Mapusa Goa 403507.
Email id: goafoundation@gmail.com.
Contact No. – 9674390308. ......**APPLICANT**

AND

1. **GOA STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY,**
through its Secretary,
c/o Goa Pollution Control Board,
Near Pilerne Industrial Estate,
Opposite Saligao Seminary,
Saligao, Bardez, Goa – 403511,
Email id- mail.gspcb@gov.in
Contact No. - 0832-2407700.

2. **GOA COASTAL ZONE MANAGEMENT AUTHORITY**
through its Member Secretary,
4th Floor, Dempo Towers,
Patto, Panaji, Goa - 403001,
Email id: goacoastalzone@gmail.com,
Contact No. - 0832-2407186.

3. **GOA STATE INFRASTRUCTURE DEVELOPMENT CORPORATION**
through its Managing Director,
7th Floor, EDC House,
Dr. Atmaram Borkar Road,
Panaji, Goa – 40300,
Email id - email@gsidcltd.com

Contact no. - 0832-2493550.

4. **STATE OF GOA,**
through its Chief Secretary,
c/o Secretariat,
Porvorim, Goa - 403521,
Email id: cs-goa@nic.in,
Contact No. - 0832-2419402.

5. **PRINCIPAL CHIEF CONSERVATOR OF FORESTS,**
Forest Department, Government of Goa,
'Van Bhavan', Altinho, Panaji, Goa – 403001,
Email id – dcfhq-forest.goa@nic.in,
Contact no. – 0832 – 2492533.

6. **MINISTRY OF ENVIRONMENT,**
FORESTS & CLIMATE CHANGE,
through its Secretary, with address at:
Indira Paryavaran Bhavan, Jor Bagh Rd,
New Delhi - 110003,
Email id – mefcc@gov.in,
Contact no. – 011 - 24645586.

......**RESPONDENTS**

(Above addresses are registered addresses of parties)

S. Parshekar
Bardez - Goa
Regn. No. 218/10
Expiry Date
29/01/2025

THIS APPLICATION MOST RESPECTFULLY SHOWETH:

1. By this application, the applicant seeks an order from this Hon'ble Tribunal to restore to the cause list O.A. No.33/2015 (which was disposed of on 22.01.2020 by this Hon'ble Tribunal) and to re-hear the matter, as the applicant was not heard at the time of the disposal of the O.A. The challenge in the O.A is to the construction of a Rs.77 crore bridge across the Tiracol river in the CRZ in North Goa. The order disposing of O.A No.33/2015 is at **Annexure A.**

FACTS OF THIS CASE:

2. Pursuant to the disposal of the O.A No.33/2015 by this Hon'ble Tribunal, the applicant had approached the Bombay High Court at Goa in Writ Petition No.183 of 2021, praying to set aside the Tribunal's order dated 22.1.2020 and to remand the matter to the Tribunal to be re-heard on grounds of denial of natural justice. Upon being informed by the applicant that it had not approached the Hon'ble NGT after the impugned order was passed with the same prayers, the Hon'ble High Court felt it would be more appropriate for the applicant to approach the Tribunal to re-hear the O.A No. 33/2015, on its claim that it had been denied natural justice. The writ petition was accordingly disposed of on 11.3.2021. A copy of the High Court's order is **Annexure B**.

3. Applicant states that though the High Court's order is dated 11.3.2021, it was not uploaded on the High Court website for several months perhaps due to the intense occurrence of the second wave of the Covid-19 pandemic in Goa which effectively shut down the state for several months and also due to subsequent shifting of the High Court premises. Applicant had however applied for an authenticated copy as early as 8.4.2021 but the Registry supplied the Applicant with a copy only on 31.07.2021. Copy of the receipt issuing the copy of the order to the Applicant on 31.07.2021 (which also discloses date of filing for the order) is at **Annexure C.** Hence there is no delay on the part of the Applicant in filing this application for a fresh hearing of the O.A No. 33/2015.

4. A few relevant facts are stated below for this Hon'ble Tribunal to appreciate the reasons why the applicant is seeking re-hearing the O.A No. 33/2015, namely (i) denial of natural justice and (ii) environmental grounds raised in the application which were not considered by the Hon'ble Tribunal.

Denial of Natural Justice:

5. O.A No. 33/2015 was originally filed in April 2015. During the period 2015 to 2018, the matter was listed before the NGT no less than 24 times. The applicant attended all hearings at Pune, through its counsel sent from Goa specifically for the hearings. The detailed record maintained by the applicant is given below:

Goa-Pune-Goa trips made for Tiracol Bridge matter:

(OA33/2015)

No.	Date of hearing	Remarks
1	9.4.2015	Lawyer present
2	17.4.2015	Lawyer present/Agency finalized
3	25.4.2015	Lawyer present
4	9.7.2015	Lawyer present
5	21.8.2015	Lawyer present
6	2.9.2015	Lawyer present
7	27.11.2015	Lawyer present
8	19.2.2016	Lawyer present / Report submitted
9	17.3.2016	Lawyer present

10	30.3.2016	Lawyer present
11	19.4.2016	Lawyer present
12	4.7.2016	Lawyer present
13	4.8.2016	Lawyer present
14	5.8.2016	Lawyer present
15	9.9.2016	Lawyer present
16	24.11.2016	Lawyer present
17	6.1.2017	Lawyer present
18	31.3.2017	All India Lawyers boycott of courts
19	8.5.2017	Absence of judicial member
20	20.7.2017	Lawyer present both days / Bombay High Court stays transfer of WZ matters to Delhi
21	2.11.2017	
22	14.12.2017	Lawyer present
23	23.1.2018	Lawyer present / SC does not permit single member benches
24	2.7.2018	Lawyer present. Thereafter, no further listing till January 2020

6. After 2018, the matter was not listed before the NGT (WZ) due to non functioning of the Tribunal for various reasons. Subsequently, the Principal Bench began hearings in Delhi, of matters which were

pending before the NGT (WZ) for some time, with video conference arrangements at the NGT premises in Pune. In these circumstances, the applicant was informed a day prior by its AOR who is based in Pune, that the O.A. No. 33/2015 was listed for hearing on the following day, i.e., 22.1.2020. There was no prior notice or warning. Applicant was taken by surprise and could not arrange for its counsel to be present in Delhi or in Pune on the appointed day. Applicant therefore instructed its AOR to ask for a short adjournment and for a fixed date for final hearing. Unfortunately, the AOR also was out of station and not able to be present for the matter, but she requested her junior to stand in and ask for an adjournment. The junior was never engaged as AOR by the applicant nor was she briefed in the matter. Despite her pleas that she was not equipped to argue the matter and she was only standing in for a date, the Tribunal rejected her request and proceeded to pass the impugned order, which, the applicant respectfully submits is in violation of section 19 (1) of the NGT Act, and wholly in violation of the principles of natural justice.

7. Applicant states that at no time during these proceedings from 2015 onwards has the applicant given any indication that it was not willing or ready to pursue the matter. On the contrary, the applicant has dedicatedly pursued the O.A and has been ready to argue the matter whenever it was possible for the Tribunal to take it up for hearing.

On non-adjudication of the issues raised in the O.A

8. The O.A No. 33/2015 challenges the construction of a Rs. 77 crore "signature bridge" extravaganza proposed in the CRZ I of Querim beach in north Goa, across the estuarine mouth of the Tiracol river to the forested slopes of Tiracol village on the other side of the river. The O.A raises the following challenges:

(i) that the construction of the bridge in CRZ I violates the provisions of the CRZ Notification, 2011;

(ii) that the construction violates the Forest Conservation Act, 1980 as there is no prior approval from the Ministry of Environment;

(iii) that the construction of the bridge would destroy forever several permanent ecological assets in Goa, including the beautiful Querim beach, the natural forest on Tiracol hill and the Tiracol estuary which is highly dynamic, due to river/sea interface;

(iv) that the estuarine area, also being the principal fishing grounds of the villagers, would be damaged by the piers to be located in the estuary on both sides of the Tiracol river;

(v) that the alignment of the bridge was decided at the behest of the owners of a proposed luxury golf course resort to be constructed in Tiracol i.e chiefly for private purpose although propped up as a public utility.

9. The construction of the bridge was first stayed in December 2014 by the Hon'ble NGT (WZ) in Appeal No. 31/2014 (filed by this applicant) on the grounds that "prima facie, there is material to show that there is violation of the CRZ notification". After the appeal was disposed of, the applicant filed O.A No 33/2015 and the stay of the project was continued vide Order dated 17.4.2015 right up to disposal of the O.A No 33/2015 on 22.01.2020. A copy of the order dated 17.4.2015 in OA 33/2015 is enclosed as **Annexure D.** Even post the Hon'ble Tribunal's order dated 22.01.2020, no work has resumed on the bridge and the situation at loco is the same as when the Hon'ble NGT first stayed the project.

10. Applicant states that as the project's stage I forest clearance has already expired, the bridge cannot be constructed at present. In the meanwhile, the private company's proposed golf course project has also been stayed by the Hon'ble High Court and there are media reports that the proponents of the golf course resort have filed for bankruptcy. The construction of such a grandiose bridge in such circumstances would be a futility, besides waste of public funds, in addition to causing unwarranted environmental distress.

11. The impugned order dated 22.01.2020 shows that this Hon'ble Tribunal has disposed of the application chiefly on the basis of a report received

from the National Institute of Ocean Technology (NIOT) who had been directed to examine the ecological impact of two piers of the bridge proposed for construction within the estuary of the Tiracol river. Applicant submits that this was only one of the several issues raised in the OA and the others have not been examined by this Hon'ble Tribunal. For that matter, the applicant was not heard on its concerns regarding the NIOT report either. Thus, the Hon'ble Tribunal has not dealt with the various issues raised in the petition including the serious violation of laws meant to protect the environment. Hence, the applicant prays that this Hon'ble Tribunal may hear the applicant on the issues raised in the application in public interest and in the interest of environmental conservation as well.

GROUNDS

12. The petitioner is therefore approaching this Hon'ble Tribunal on the following grounds, among others:

    i. The impugned order is contrary to the requirements of Section 19(1) of the NGT Act, 2010. The Hon'ble Tribunal is restrained by law from passing orders on substantial environmental issues raised by litigants without hearing the parties. Any order passed in absence of such hearing of litigants is contrary to law, the NGT Act, and principles of natural justice to which the NGT must adhere. There are no exceptions to this provision of law in the NGT Act, 2010.

    ii. The Hon'ble Tribunal has been set up to hear people who raise issues of substantial environmental importance or who appeal orders passed under certain specific acts. The very structure of the NGT does not permit the Hon'ble Tribunal to pass orders without hearing petitioners. The NGT is not empowered to change the NGT Act or to act in violation of the provisions of the NGT Act, 2010.

    iii. The applicant has related the circumstances in which the order came to be issued by the Hon'ble Tribunal. The

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Hon'ble Tribunal ought to have granted the request of the lawyer for an adjournment, as the matter was coming up after a considerable amount of time and without sufficient notice. To the best of the applicant's knowledge, there was no request from any party for imperative hearing of this matter.

iv. While the Tribunal does have jurisdiction to hear a matter in the absence of the applicant, if the conduct of the applicant is to delay or unnecessarily protract the proceedings, there is no justification whatsoever for the Hon'ble Tribunal not to have granted a short adjournment as the applicant had been present through counsel on all dates when the matter was listed and had clearly demonstrated its willingness to pursue the matter diligently. Applicant submits that the failure to grant an adjournment and thus afford a full opportunity of hearing to the applicant, is a total violation of the principles of natural justice.

v. By the impugned order, the Tribunal has not at all dealt with the main issues raised in the application, including the violation of the CRZ Notification, violation of the Forest Conservation Act and the private interest demonstrated in this allegedly public project.

vi. Such a complex matter could not have been heard through a one-sided video conference, which gave advantage to those physically appearing before the Tribunal in Delhi.

vii. In the haste to dispose of the application, the Tribunal has passed an unreasonable Order, without considering the pleadings of the applicant, virtually making it a non-speaking Order.

viii. Pleadings are already complete, hence there would be no delay in fixing a date for the re-hearing of the O.A No. 33/2015.

13. The Applicant therefore prays that this Hon'ble Tribunal be pleased to recall its order dated 22.1.2020 and direct the listing of O.A No 33/2015 to be heard afresh, on any date that is convenient to the Hon'ble Tribunal.

14. As the Hon'ble Tribunal had stayed the bridge construction during the pendency of the application, vide order dated 17.4.2015, the applicant prays for maintenance of the interim stay order until the O.A is heard and decided by the Hon'ble Tribunal.

LIMITATION:

15. There is no delay in the filing of this application. The applicant had first approached the Hon'ble HC vide WP No 183/2021 (F) seeking relief. Vide order dated 31.03.2021 the Hon'ble HC directed the applicant herein to approach the Principal Bench of the Hon'ble NGT. Thereafter, the applicant herein made an application for the authenticated copy of the order on 08.04.2021. However, due to the subsequent lockdown in view of the continuing pandemic and other unknown reasons, the applicant was provided with an authenticated copy of the order only on 31.07.2021.

16. In line with the order of the Hon'ble High Court of Bombay at Goa dt. 31.03.2021, this Applicant approached the Principal Bench of the Hon'ble National Green Tribunal with the issues and concerns espoused in this Application, with an Original Application dt. 04.09.2021 bearing Filing No. 0701102024432021. However, the applicant was directed by the registry to file the Application before the Hon'ble Western Zone Bench.

As such, the Applicant has now approached this Hon'ble Western Zone Bench regarding the issues and concerns detailed above. A copy of the receipt dt. 04.09.2021 showing the successful e-filing of the O.A. with the Principal Bench and a screenshot of the webpage showing the defect so raised is annexed hereto as **Annexure E Colly.**

PRAYERS

17. The applicant is therefore approaching this Hon'ble Tribunal for the following reliefs:

(a) For an order setting aside the order dated 22.01.2020 disposing of O.A. no. 33/2015.

(b) For an order restoring O.A. No. 33/2015 to the final hearing board;

(c) For such and further orders as this Hon'ble Tribunal may deem fit to grant

INTERIM RELIEFS

(d) Pending hearing and final disposal of the application, for an interim order restraining the respondents from proceeding with the construction of the aforesaid bridge being erected across the Tiracol river from the CRZ of Querim (also Kerim) beach in North Goa to the forested Tiracol village on the other side of the river

(e) For an ex parte ad interim order in terms of prayer clause (d)

04.10.2021
Mapusa, Goa

Applicant

Through:
Adv Anamika Gode,
G 8 St Brittos Apts, Mapusa, Goa – 403507
[anamikagode@gmail.com, 9674390308]

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL , WESTERN ZONE BENCH AT PUNE

MISC. APPLICATION NO   OF 2021
IN
ORIGINAL APPLICATION NO. 33/2015

BETWEEN:

The Goa Foundation ...**APPLICANT**

AND

Goa State Environment
Impact Assessment Authority & Ors. ...**RESPONDENTS**

AFFIDAVIT

I, Dr. Claude aged 73, Indian national, Secretary – Goa Foundation, applicant organization abovenamed, do hereby solemnly affirm and state as under:

1. That I am the secretary and authorized representative of Goa Foundation, i.e. the Applicant, and I am aware of the present case, and as such am competent to swear this affidavit.

2. That I have read and understood the accompanying Application which has been drafted on my instructions.

3. I verify that the contents of paras 1, 2, 3(p), 4, 5, 6(p), 7- 9, 10(p), and 11(p) of the accompanying application are in the nature of facts which are true to my own knowledge and belief, and that the contents of paras 3(p), 6(p), 10(p) and 11(p)and 12-17 are my submissions, based on legal advice, which I believe to be true and correct. No part of it is false and nothing material has been concealed therefrom.

4. That the Annexures enclosed are true and correct copies of their respective originals.

Solemnly affirmed at Mapusa,
This the 4th day of October 2021

DEPONENT

SOLEMNLY AFFIRMED AND VERIFIED BEFORE ME BY Dr. Claude Alvares
WHO IS IDENTIFIED BEFORE ME BY
WHOM I PERSONALLY KNOW
REG. No. 2660/2021 DATED 4/10/2021

JANARDHAN S. PARSHEKAR
NOTARY AT MAPUSA, BARDEZ - GOA.
STATE OF GOA, INDIA.

VERIFICATION

Verified that the contents of paras 1 to 4 of my above affidavit are true to my knowledge and belief, and that no part of it is false and nothing material has been concealed therefrom.

Verified on the 4th day of October, 2021,
at Mapusa, Goa

DEPONENT

Janardhan S. Parshekar
Mapusa Bardez - Goa
Regd. No. 218/10
Expiry Date 28/01/2025

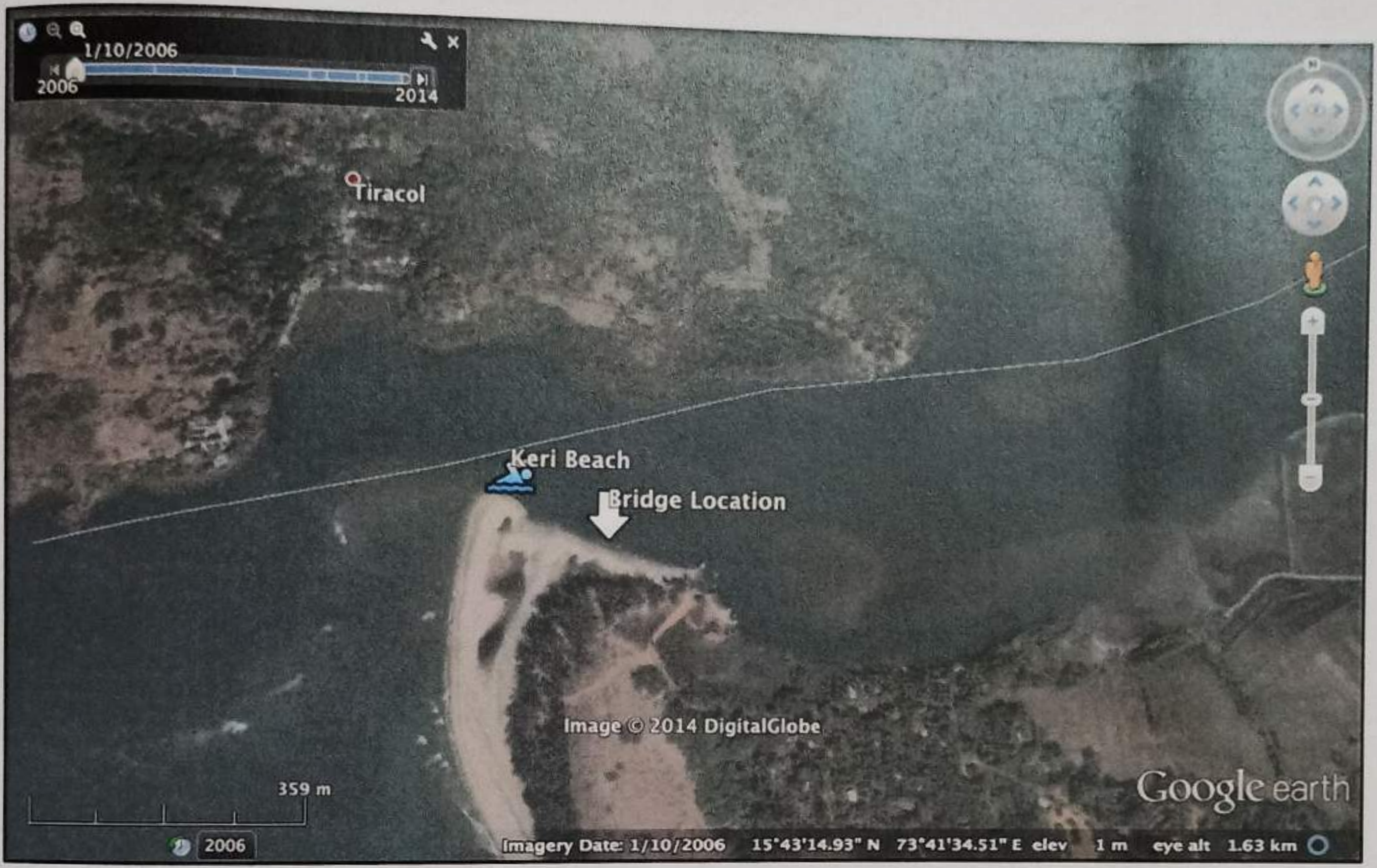
NOTARIAL NOTARIAL

SOLEMNLY AFFIRMED AND VERIFIED BEFORE ME BY Dr. Claude Alvares
WHO IS IDENTIFIED BEFORE ME BY
WHOM I PERSONALLY KNOW
REG. No. 2660/2021 DATED 4/10/2021

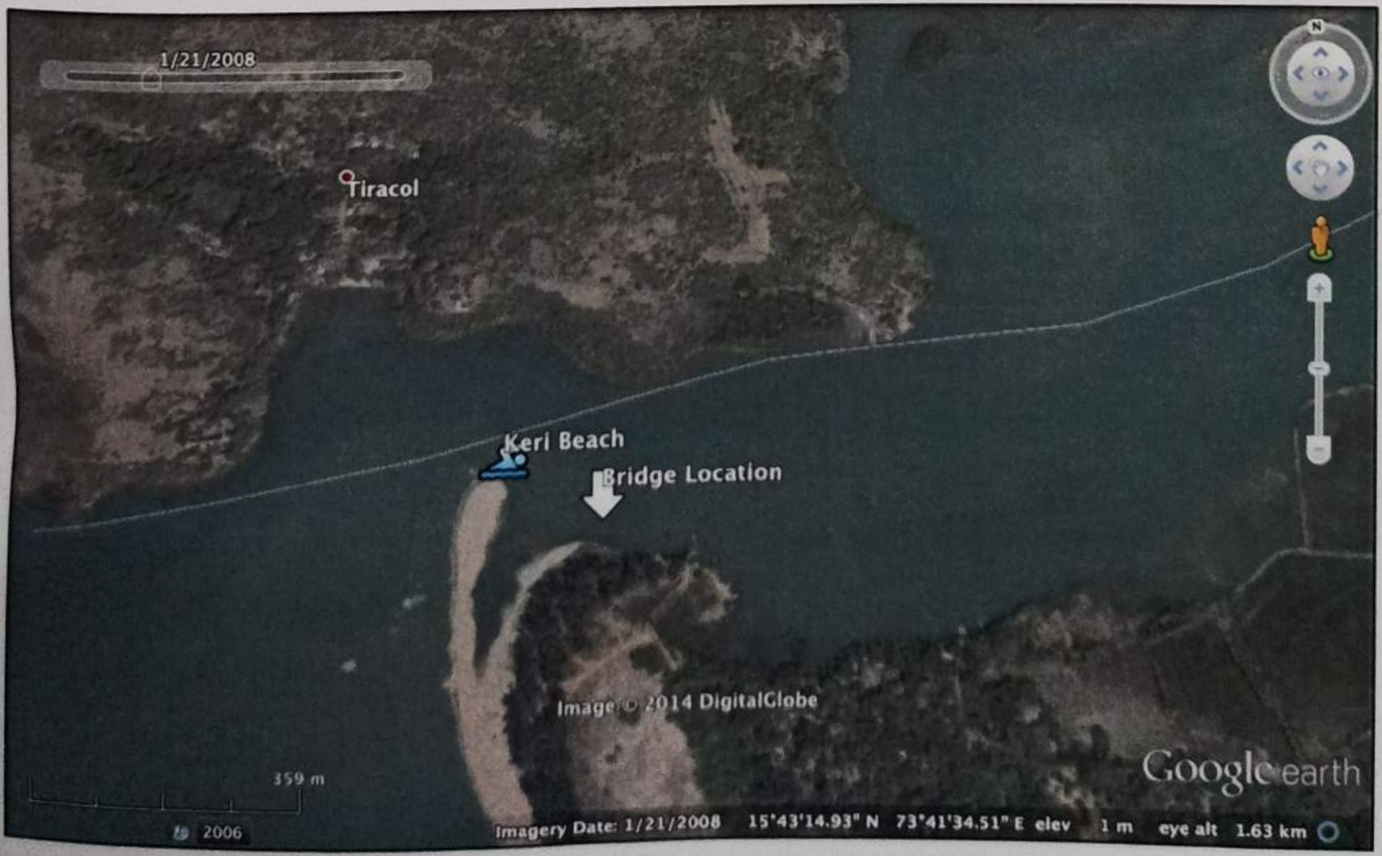
JANARDHAN S. PARSHEKAR
NOTARY AT MAPUSA, BARDEZ - GOA.
STATE OF GOA, INDIA.

Tiracol-Querim Beach Spit

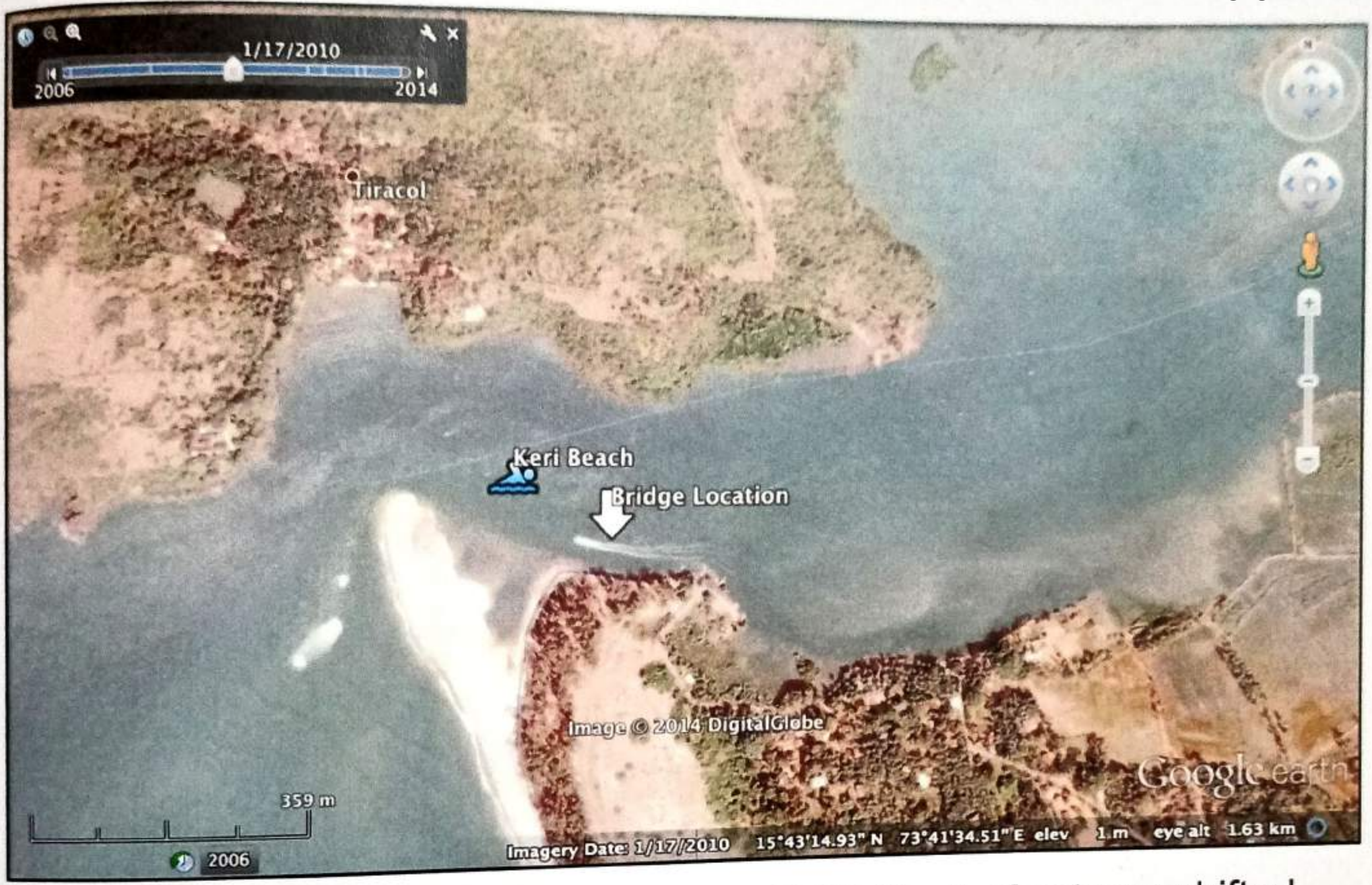
Annexure A-25


1/10/2006
2006
2014
Tiracol
Keri Beach
Bridge Location
Image © 2014 DigitalGlobe
359 m
2006
Google earth
Imagery Date: 1/10/2006 15°43'14.93" N 73°41'34.51" E elev 1 m eye alt 1.63 km

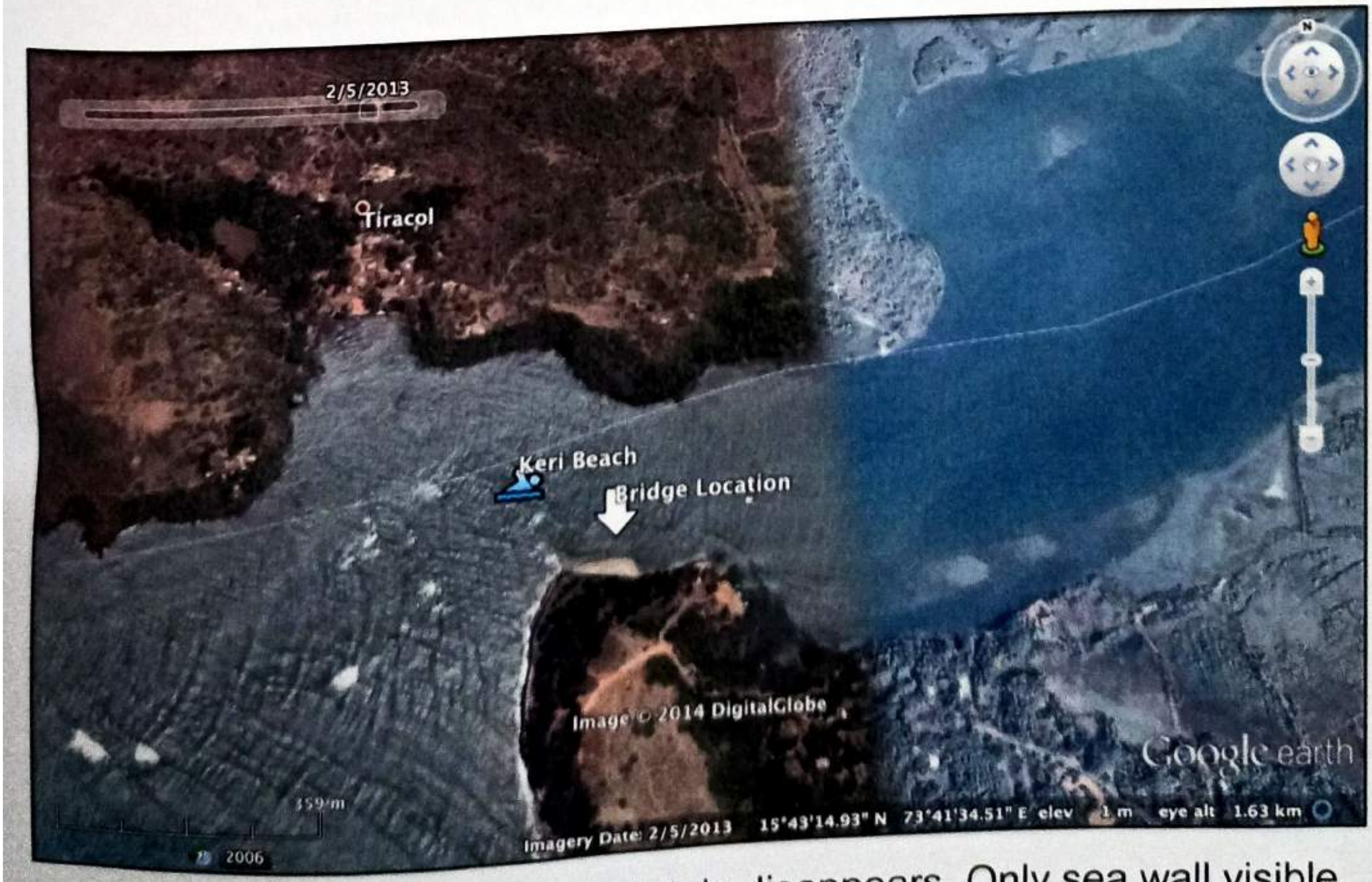
Year 2006: Spit is elongated, trending N.E. (towards river mouth). Large sandy beach on the sea side. Thinner beach, river side.


1/21/2008
Tiracol
Keri Beach
Bridge Location
Image © 2014 DigitalGlobe
359 m
2006
Google earth
Imagery Date: 1/21/2008 15°43'14.93" N 73°41'34.51" E elev 1 m eye alt 1.63 km

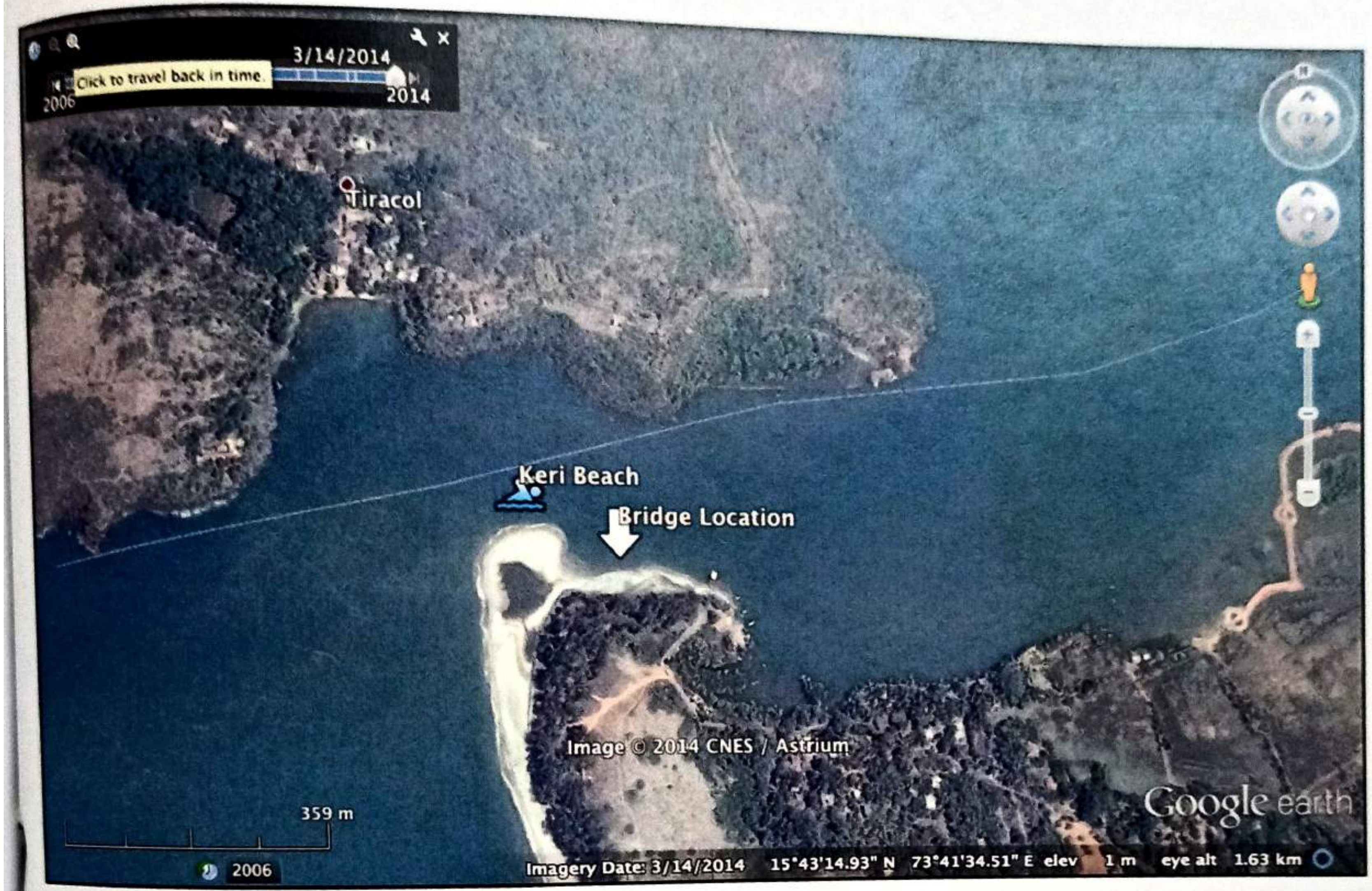
Year 2008: Spit becomes a thin elongated lobe pointing N. E.


1/17/2010
2006
2014
Tiracol
Keri Beach
Bridge Location
Image © 2014 DigitalGlobe
Google earth
359 m
2006
Imagery Date: 1/17/2010 15°43'14.93" N 73°41'34.51" E elev 1 m eye alt 1.63 km

Year 2010: Spit is thick, broad, trending N.W. Neck of estuary shifted. Sea wall visible. Beach disappears on river side.


2/5/2013
Tiracol
Keri Beach
Bridge Location
Image © 2014 DigitalGlobe
Google earth
359 m
2006
Imagery Date: 2/5/2013 15°43'14.93" N 73°41'34.51" E elev 1 m eye alt 1.63 km

Year 2013: Spit and beach completely disappears. Only sea wall visible.


3/14/2014
Click to travel back in time.
2006
2014
Tiracol
Keri Beach
Bridge Location
Image © 2014 CNES / Astrium
Google earth
359 m
2006
Imagery Date: 3/14/2014 15°43'14.93" N 73°41'34.51" E elev 1 m eye alt 1.63 km

Year 2014: Spit shortened and rounded, trending North. Scanty sand on beach on sea / river side.

IN THE HON'BLE SUPREME COURT OF INDIA
CIVIL APPELLATE JURISDICTION
CIVIL APPEAL NO. ________ OF 2022

IN THE MATTER OF:

THE GOA FOUNDATION …APPELLANT

VERSUS

GOA STATE ENVIRONMENT IMPACT
ASSESSMENT AUTHORITY AND ORS. …RESPONDENTS

APPLICATION FOR PERMISSION TO PLACE ADDITIONAL DOCUMENTS ON RECORD

TO,
THE HON'BLE CHIEF JUSTICE OF INDIA AND THE HON'BLE JUDGES OF THE SUPREME COURT OF INDIA

THE HUMBLE APPLICATION OF THE APPLICANT ABOVE NAMED

MOST RESPECTFULLY SHOWETH:

1. The present application has been filed in the above Civil Appeal filed under Section 22 of the National Green Tribunal Act, 2010 against the impugned order dated 22.01.2020 passed by the Ld. National Green Tribunal, Principal Bench, Delhi in O.A. No. 33/2015 [WZ] and the impugned order dated 17.01.2022 passed by the Ld. National Green Tribunal, Special Bench in Misc. Application No. 21/2021(WZ) in O.A. No. 33/2015(WZ).

2. That the facts of the case have been fully set out in the accompanying Civil Appeal. It is submitted that the facts stated in the Civil Appeal may be treated as part of this application and the same are not reproduced herein for the sake of brevity.
3. That the following additional documents are relevant for the purpose of the adjudication of the present Civil Appeal, the same are as follows.
    i. A true copy of the Writ Petition No. 557/2022 [F] filed by the Appellant in the Hon'ble High Court of Bombay at Goa is annexed hereto and marked as **ANNEXURE A-26 (Pages 211-232)**
    ii. A true copy of the order dated 29.04.2022 passed by the Hon'ble High Court of Bombay at Goa in Writ Petition No. 557/2022 [F] is annexed hereto and marked as **ANNEXURE A-27 (Page 233)**
4. It is submitted that the present application is bonafide and that the documents annexed in Annexure A-26 to A-27 are necessary for the just and proper adjudication of the instant appeal.
5. That it is in the interest of justice that the aforementioned documents may be taken on record.

PRAYER:

In these circumstances, it is most respectfully prayed that this Hon'ble Court may be pleased to:

a) Pass an order permitting the Appellant to file and rely upon Annexures A-26 to A-27 as additional documents;

b) Pass any other order or orders as may be just and deemed fit.

Place: New Delhi

Date: 30.05.2022

FILED BY:

Srishti Agnihotri

MS. SRISHTI AGNIHOTRI

ADVOCATE FOR THE APPELLANT

Annexure A-26

IN THE HON'BLE HIGH COURT OF JUDICATURE AT BOMBAY, GOA BENCH, AT PORVORIM, GOA

WRIT PETITION NO._____ OF 2022

IN THE MATTER OF ARTICLES 226 AND 227 OF THE CONSTITUTION OF INDIA

AND

IN THE MATTER OF SECTION 19 (1) OF THE NATIONAL GREEN TRIBUNAL ACT, 2010

AND

IN THE MATTER OF DISPOSAL OF AN APPLICATION OF PETITIONER BY THE HON'BLE TRIBUNAL IN VIOLATION OF

THE PRINCIPLES OF NATURAL JUSTICE, ORDER OF THIS HON'BLE COURT AND THE PROVISIONS OF THE NGT ACT.

1. **THE GOA FOUNDATION,**
   through its Secretary, Dr. Claude Alvares,
   age 73 years, having Regd.
   Office at Room No 7, Above Mapusa Clinic,
   Mapusa, Goa - 403507,
   PAN No. AAAAG0249C,
   Registration No. - 23/Goa/86
   Email id: goafoundation@gmail.com

……Petitioner

V/s

1. **THE GOA STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY,**
   through its Secretary,
   c/o Goa Pollution Control Board,
   Near Pilerne Industrial Estate,
   Opposite Saligao Seminary,
   Saligao, Bardez, Goa – 403511.

2. **THE GOA COASTAL ZONE MANAGEMENT AUTHORITY,**
   through its Member Secretary,
   4th Floor, Dempo Towers,
   Patto, Panaji, Goa - 403001.

3. **THE GOA STATE INFRASTRUCTURE DEVELOPMENT CORPORATION**
   through its Managing Director,
   7th Floor, EDC House,
   Dr. Atmaram Borkar Road,
   Panaji, Goa – 403001.

4. **THE STATE OF GOA,**
   through its Chief Secretary,
   c/o Secretariat, Porvorim, Goa - 403521.
5. **THE PRINCIPAL CHIEF CONSERVATOR OF FORESTS,**
   Forest Department, Government of Goa,
   'Van Bhavan', Altinho, Panaji, Goa – 403001.

6. **MINISTRY OF ENVIRONMENT, FORESTS & Climate Change,**
   through its Secretary, with address at:
   Indira Paryavaran Bhavan, Jor Bagh Rd,
   New Delhi 110003.

......**RESPONDENTS**

(Above addresses are registered addresses of parties)

To,

The Hon'ble Chief Justice

& His Companion Judges,

Bombay High Court at Panaji, Goa

HUMBLE PETITION OF THE PETITIONER

MOST RESPECTFULLY SHEWETH AS UNDER:

1. The Petitioner is a society registered under the Societies Registration Act, 1860 under No. 23/Goa/86 and is represented by its Secretary, Dr Claude Alvares, as described in the cause-title hereinabove. The Petitioner has been in the forefront of espousing causes for the protection of the environment in this Hon'ble Court, the Hon'ble National Green Tribunal and the Hon'ble Supreme Court of India. The Petitioner was the Original Applicant before the National Green Tribunal and the Respondents were the Respondent No.1 to 6 therein, respectively in OA No. 33/2015 (WZ). The registration details of the Petitioner are enclosed as **Annexure 1**.

Facts related to the Cause

2. This writ petition is being filed for an order to quash and set aside the order dated 17.01.2022 passed by the Hon'ble NGT (WZ) disposing of Misc Application 21/2021 in O.A. No. 33/2015. The petitioner submits that the impugned order was passed by the Northern Zone bench which does not have jurisdiction over matters placed before the Western Zone bench. The said order was also passed without any consideration of the issues raised in the application which were limited to the fact that the petitioner was not heard at the time of the disposal of the OA No.33/2015. The Miscellaneous Application (which was filed pursuant to an order of this Hon'ble Court) sought a recall of the order disposing of the OA, and for an order restoring OA 33/2015 to the final hearing board so that all parties may have a fair opportunity to argue the matter before the Hon'ble Tribunal. Instead, without any notice or warning, the Miscellaneous Application was treated as a review petition and the Hon'ble NGT disposed of the OA on merits vide order dated 17.01.2022. – once again, repeating the earlier violation of the principles of natural justice. A copy of the impugned order dt. 17.01.2022 is at **Annexure 2.** A copy of the

NGT's order dated 22.01.2020 is enclosed as **Annexure 3.**

3. Petitioner submits that it had diligently pursued the O.A. No. 33/2015 before the NGT for five years, and entered appearance on every occasion that it was listed on the cause list of matters to be taken up for hearing. Post 2017, the NGT(WZ) itself stopped functioning due to various reasons. Subsequently, the Northern Zone bench (also known as the Principal bench) began hearings in Delhi of matters listed before the Western Zone bench, via video conference facility in Pune. The Petitioner herein, which is located in Goa, being informed only a day prior of the sudden listing of the matter after an interval of two years, was unable to attend the hearing in Pune and sought a short adjournment of the matter through its AOR, which was unreasonably rejected and the OA was disposed of on 22.01.2020 without hearing the Petitioner.

4. Due to the onset of the covid pandemic, the Petitioner was unable to take necessary action immediately. However, the petitioner thereafter approached the Bombay High Court at Goa in Writ Petition No. 183 of 2021 [F], praying to set aside the Tribunal's order dated 22.01.2020 on grounds of denial of natural justice and to remand the matter to the Tribunal to be re-heard. Upon

being informed that it had not approached the Hon’ble NGT after the impugned order was passed, the Hon'ble High Court felt it would be more appropriate for the Applicant to approach the Tribunal to re-hear the O.A No. 33/2015, on its claim that it had not been heard and was therefore denied natural justice. The writ petition was accordingly disposed of on 11.03.2021. Pertinently, this Hon’ble Court noted:

> “5. We reckon that the Petitioner’s grievance is genuine. As represented by the learned Counsel for the Petitioners, the NGO pursued the matter diligently when it had been pending with the NGT, Pune Bench for five years.
>
> 6. Then for the reasons not germane here, the Principal Bench NGT at Delhi took up the matters of Pune Bench with one day’s notice or so. We reckon the petitioners are justified in contending that they hardly had any time to prepare themselves to go over to Delhi and defend themselves. So, it will serve the ends of justice if the NGT, Delhi considers the petitioner’s plight in the light of the prevailing pandemic. As the respondent has raised a jurisdictional issue, we intend to address no issue on the merits.

> Instead, we close the Writ Petition, giving liberty to the Petitioners to approach the Principal Bench of NGT, Delhi and highlight the problem they had faced and how it had been diligent in prosecuting the case. In that event, the learned NGT, we hope, will consider the issue keeping in view of the Apex Court's directives on the approach the courts and the tribunals have to adopt during the pandemic."

A copy of this Hon'ble High Court's order dt. 11.03.2021 in W.P. 183/2021 [F] is enclosed as **Annexure 4**.

5. Accordingly, the Petitioner duly filed an Application bearing filing no. 0701102024432021 before the Principal bench of the NGT, seeking a recall of the order dt. 22.01.2020 in O.A. No 33/2015. However, the Petitioners were informed by the registry of the NGT to file the application before the Western Zone Bench. The receipt of filing the Application with no. 0701102024432021 dt. 04.09.2021 as well as the Registry Objection raised by the NGT is enclosed as **Annexure 5 Colly.**

6. Hence, Petitioners filed Misc. Application No.21/2021 in OA No. 33/2015 before the Hon'ble NGT (WZ) seeking a recall of the order

dated 22.01.2020 in OA No 33/2015 (WZ) on grounds of violation of principles of natural justice and praying that OA No 33/2015 be restored to the cause list for hearing on merits.

7. The Petitioner submits that the Miscellaneous Application was limited to the issue of natural justice and highlighted in specific detail how the petitioner had diligently pursued the matter for five years travelling from Goa to Pune on more than 20 occasions, and the genuine circumstances under which the Petitioner was unable to attend the hearing on 22.01.2021 upon being informed only a day prior. This Hon'ble Court's order in WP No 183/2021 [F] was also enclosed. A copy of the Misc. Application No. 21/2021 in OA No. 33/2015 is enclosed as **Annexure 6.**

8. The Miscellaneous Application was listed before the NGT (WZ) on 3 occasions and notice was issued to the respondents who sought time to file their replies. It appears that sometime in December, 2021, the judicial member of the Western Zone resigned and the duly constituted WZ bench ceased to function. On 17.01.2022, the Misc Application was suddenly listed before the NGT (Northern Zone Bench) acting as a 'special bench'. The Petitioner submits that the constitution of the said bench is *ultra vires* the NGT Act, 2010 and constitution of this special

bench has been challenged by the Petitioner before this Hon'ble Court in P.I.L. W.P. 4/2022 (Goa Foundation vs NGT (PB) & Ors.). This Hon'ble Court has been pleased to issue notice in the matter.

9. On 17.01.2022 the Miscellaneous Application was disposed of by the so-called "special bench" - with absolutely no consideration of the grievance of the petitioner in the Misc. Application regarding the violation of principles of natural justice. As evidenced by the impugned order itself, that issue was not even considered. Instead, the NGT has treated the Misc Application itself as a review petition, considered the main matter again on merits – on issues not argued by the parties – and disposed of the Misc Application by an order disposing of an already disposed of OA No 33/2015 - without first restoring the OA for rehearing. At para 4, the order states:

> "4. Without going into any technicality, we have considered the issue once again but do not find any merit in the case of the applicant."

10. The Petitioners submit that the NGT was bound to consider the issue of violation of natural justice and whether a fair hearing was granted to

the Petitioner at the time of the disposal of the OA. Instead, a disposed of application was disposed of for the second time with additional directions which is quite unprecedented. This course of action by the Tribunal cannot be accepted, as the conduct of Tribunal proceedings is laid down in the statute and rules. Petitioners submit that its grievance in M.A. No 21/2021 in OA 33/2015 has not been addressed, let alone redressed and hence the petitioner is constrained to approach this Hon'ble Court once again seeking appropriate relief.

11. A few relevant facts necessary for appreciation of the issues raised in this Petition are set out hereinbelow.

12. The Petitioner filed the Original Application No. 33/2015 (WZ) before NGT (WZ), Pune, to challenge the construction of a Rs.77 crore signature bridge being erected across the Tiracol river from the CRZ of Querim beach in north Goa to the forested Tiracol village on the other side of the river. The project was proposed to benefit a private golf course resort and was being constructed in violation of the alignment approved in the statutory Regional Plan. The application raised issues of violation of the CRZ Notification, violation of the Forest Conservation Act and the destruction of coastal ecology. The

construction of the bridge was stayed for 5 years from 2015 till the time the NGT disposed of the application. The construction of the bridge has not recommenced thereafter till date. Details of the Petitioner's cause of action are set out in the Misc Application No 21/2021 (at **Annexure 6** to this Petition).

13. Petitioner submits that the Original Application raises important issues relating to the sanctity of the public beaches of Goa within the context of intergenerational equity, the protection of hill slopes and forests, and the conservation of the estuary. Hence the Petitioner is pressing that OA 33/2015 must be heard, and not summarily disposed of without hearing the petitioner.

GROUNDS

14. The petitioner is therefore approaching this Hon'ble Court on the following grounds, among others:

    i. The Northern Zone bench ought not to have heard the matter, as it pertained to jurisdiction of the Western Zone bench. The NGT Act does not permit one bench of the NGT to operate as a bench of another place of ordinary sitting, in this case, the Western Zone bench. The takeover and reassignment of matters of the Western Zone bench to the Central zone bench and the North Zone bench are all irregular and outside the scope and provisions of the NGT Act. Hence the impugned order cannot stand and must be quashed and set aside on that ground alone. However, the issues connected with the legality of the special bench have been raised in PIL WP No. 4/2022 which is also before this Hon’ble Court, hence these issues are not challenged in this petition.

ii. Second, the impugned order has been passed with absolutely no consideration of the issue raised in the Miscellaneous Application – that the OA No. 33/2015 was disposed of without a fair hearing to the petitioner. Instead, the Miscellaneous Application itself was treated as a review petition and disposed of based on the merits of the main matter which were not argued or raised in the Miscellaneous Application or argued before the tribunal on the said date.

The Petitioners submit that they were not granted a fair hearing or a chance to argue to the main matter on the merits.

iii. The Hon'ble Tribunal could not have totally ignored the intervention of the High Court in enabling the petitioner to file the Misc application for recall of the order dt. 22.01.2020 and restoration of OA No.33/2015 to the hearing list, for adjudication.

iv. The impugned order is contrary to the requirements of Section 19(1) of the NGT Act, 2010.

v. The petitioners have diligently pursued OA No. 33/2015 for five years until it was disposed of without a fair hearing to the Petitioner. Thereafter, the Petitioners have approached this Hon'ble Court as well as the Hon'ble NGT seeking relief. However, instead of hearing the Petitioner on the issue of natural justice and granting relief – to hear the petitioner on OA No. 33. 2015 – the impugned order has returned the Petitioner back to square one.

vi. Petitioners submit that the Tribunal ought not to conduct itself in such manner by violating the statutory requirements, in order to ensure that the principles of natural justice are adhered to by the Tribunal, which is a creature of the Act. If the Tribunal continues to act in such manner, fewer and fewer litigants will approach its doors for justice, and most litigants would prefer to return to the High Courts which may not be a bad situation as prior to the NGT Act, the High Courts have handled environmental issues with competence and commitment for several decades, and have never resorted to short-cutting the rights of litigants to a fair hearing.

vii. In the haste to dispose of the Misc. Application, the Tribunal has passed an Order, without again considering the pleas of the Petitioner.

viii. Such and further grounds as may be taken at the time of hearing of this petition.

15. The Petitioner is therefore entitled to an appropriate Writ, order or direction, to quash and set aside the order dated 17.01.2022 in Miscellaneous Application No. 21/2021 (WZ) in Original Application No. 33/2015 (WZ).

16. The Petitioner states that during the pendency of the Original Application No. 33/2015 before the NGT, the Petitioner had obtained an interim Order dated 17.04.2015 (enclosed as **Annexure 7**) in the O.A. restraining the Respondents from proceeding with work of the signature bridge (including Pier No.6) being erected across the Tiracol river from the CRZ of Querim (also Kerim) beach in north Goa to the forested Tiracol village on the other side of the river. The work has not re-commenced till date. Hence, Petitioner is also entitled to an Order restraining the Respondents from proceeding with the construction of the aforesaid signature bridge being erected across the Tiracol river from the CRZ of Querim beach to Tiracol village. In any event, the bridge itself no longer serves any purpose as the promoters of the golf course resort have declared bankruptcy proceedings. Petitioner states that there is still scope for construction of the bridge along the alignment provided in the Regional Plan which will not

involve any environmental damage as envisaged by the construction of the signature bridge.

17. This Hon'ble Court has jurisdiction to hear this petition, as the Western Zone and its functioning fall squarely within the supervisory jurisdiction of this Court.

18. The Petitioner has an alternate remedy of filing an appeal before the Hon'ble Supreme Court. However, since the issue raised in this Petition is on the denial of a fair hearing, which is a denial of the principles of natural justice, the Petitioner is constrained to approach this Hon'ble Court as approaching the Hon'ble Supreme Court in these circumstances would be onerous. In any event, this Hon'ble Court has always protected litigants who have complained of being deprived of being heard by the NGT.

19. Fixed Court Fees as prescribed are paid hereon.

20. **CAVEAT**

The Petitioner has not received a notice of any Caveat from any of the Respondents.

PRAYERS

21. The Petitioner therefore prays that this Hon’ble Court be pleased to:

    a) Quash/set-aside/reverse the impugned Order dated 17.01.2022 in Misc Application No 21/2021 (WZ) in Original Application No. 33/2015 (WZ) passed by the National Green Tribunal (Special Bench);

    b) Remand Misc. Application No 21/2021 (WZ) to the National Green Tribunal, Pune (Western Zone Bench);

    Or,

    in the alternative, direct the National Green Tribunal, Pune (Western Zone Bench) to hear Original Application No. 33/2015 (WZ) afresh;

    c) Pass such Orders as this Hon. Court deems fit;

INTERIM RELIEF:

    d) Pending the hearing and disposal of this Petition, pass an interim Order restraining the Respondents from proceeding with the construction of the aforesaid signature bridge being erected across the Tiracol river from the CRZ of Querim beach to Tiracol village;

e) Pass ex-parte ad interim Order in terms of prayer clause (d) hereinabove;

For the above, the Petitioner is very grateful.

Place: , Goa

Date: 11.03.2022 Petitioner

IN THE HON'BLE HIGH COURT OF JUDICATURE AT BOMBAY, GOA BENCH, AT PORVORIM, GOA

WRIT PETITION NO._____ OF 2022

THE GOA FOUNDATION ….. Petitioner

vs.

THE GOA STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY & ORS.

….Respondents

VERIFICATION

I, Dr. Claude Alvares, secretary of the Goa Foundation, the Petitioner above named, do hereby solemnly verify on oath that the contents of paras 1, 2(p), 3(p), 4, 5, 6, 7(p), 8(p), 9(p), 11, 12(p), 16(p), 17, 19, and 20 are true to the best of my knowledge and the contents of paragraphs 2(p), 3(p), 7(p), 8(p), 9(p), 10, 12(p), 13, 14, 15, 16(p), 18, and 21 are in the nature of legal submissions which I believe to be true and correct. No part of it is false and nothing material has been concealed therefrom.

Solemnly affirmed at ,
this the day of March 2022 **Deponent**

Identified by me

AFFIDAVIT IN SUPPORT OF THE PETITION

I, Dr. Claude Alvares, secretary of the Goa Foundation, the Petitioner above named, do solemnly state on oath as under:

1. I say that I have today filed a Writ Petition for the reliefs sought therein, which has been prepared under the instructions of the Petitioner.

2. The petitioner is ready to pay costs as ordered by the Court, if it is ultimately held that the petition is frivolous or has been filed for extraneous consideration or that it lacks bonafides.

3. The petitioner shall disclose the source of its information, leading to the filing of this petition, if and when called upon by the Court to do so.

4. That the contents of paras 1, 2(p), 3(p), 4, 5, 6, 7(p), 8(p), 9(p), 11, 12(p), 16(p), 17, 19, and 20 are true to the best of my knowledge and the contents of paragraphs 2(p), 3(p), 7(p), 8(p), 9(p), 10, 12(p), 13, 14, 15, 16(p), 18, and 21 are in the nature of legal submissions which I believe to be true and correct. No part of it is false and nothing material has been concealed therefrom.

5. I say that the documents annexed are true copies of their originals.

Solemnly affirmed at ,
this the day of March 2022

Deponent

Andreza

IN THE HIGH COURT OF BOMBAY AT GOA

WRIT PETITION NO.557 OF 2022 (F)

THE GOA FOUNDATION THR. ITS SECRETARY DR. CLAUDE ALVARES ... PETITIONER

Versus

THE GOA STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY THR. ITS SECRETARY AND 5 ORS. ... RESPONDENTS.

Ms. Norma Alvares with Mr. Om D'Costa, Advocates *for the Petitioner.*

Mr. Devidas Pangam, Advocate General *with Ms. Maria Correia, Additional Government Advocate for the Respondent-State.*

Mr. Somnath Karpe, Advocate *for Respondent No.6.*

CORAM: C.V. BHADANG &
R.N. LADDHA, JJ.

DATED: 29th April 2022

P.C:

1. Ms. Alvares, learned Counsel for the Petitioner, on instructions, seeks leave to withdraw the Petition as the Petitioner intends to take recourse to appropriate remedy in the matter.

2. In that view of the matter, the Petition is disposed of as withdrawn with no order as to costs.

R.N. LADDHA, J. **C.V. BHADANG, J.**

IN THE HON'BLE SUPREME COURT OF INDIA
CIVIL APPELLATE JURISDICTION
CIVIL APPEAL NO. ________ OF 2022

IN THE MATTER OF:

THE GOA FOUNDATION …APPELLANT

VERSUS

GOA STATE ENVIRONMENT IMPACT
ASSESSMENT AUTHORITY AND ORS. …RESPONDENTS

APPLICATION FOR GRANT OF INTERIM RELIEF

TO,
THE HON'BLE CHIEF JUSTICE OF INDIA AND THE HON'BLE JUDGES OF THE SUPREME COURT OF INDIA

THE HUMBLE APPLICATION OF THE APPLICANT ABOVE NAMED

MOST RESPECTFULLY SHOWETH:

1. The present application has been filed in the above Civil Appeal filed under Section 22 of the National Green Tribunal Act, 2010 against the impugned order dated 22.01.2020 passed by the Ld. National Green Tribunal, Principal Bench, Delhi in O.A. No. 33/2015 [WZ] and the impugned order dated 17.01.2022 passed by the Ld. National Green Tribunal, Special Bench in Misc. Application No. 21/2021(WZ) in O.A. No. 33/2015(WZ).

2. That the facts of the case have been fully set out in the accompanying Civil Appeal. It is submitted that the facts stated in the Civil Appeal may be treated as part of this application and the same are not reproduced herein for the sake of brevity.
3. In the Original Application No. 33/2015(WZ), the Appellant herein had challenged the construction of the 'Signature Bridge' to be erected across the Tiracol river in Borth Goa from the CRZ I of Querim beach to the forested Tiracol village on the other side of the river. The Appellant prayed for directions from the Ld. NGT for the removal of construction work that had commenced for the Tiracol bridge which was partly being erected on the Querim beach, as well as the restoration of Querim beach to its original condition and appropriate costs for the same.
4. It was the Appellant's case before the Ld. Tribunal that the construction of the bridge in the CRZ I area in Querim beach violates the provisions of the CRZ Notification, 2011, as well as the provisions of the Forest (Conservation) Act, 1980 as no prior approval had been obtained for the diversion of forest land from the MoEF&CC. The construction of the bridge would destroy the coastal ecology of Querim beach, the natural forest on Tiracol hill and the Tiracol estuary which is highly dynamic, due to river/sea interface.

5. The OA No. 33/2015(WZ) was disposed of the Ld. NGT, Principal Bench, New Delhi without hearing the Appellant or considering the issues raised by the Appellant and the relevant material placed on record, in violation of the principles of natural justice.
6. The Appellant has filed the present Application as irreparable harm will be caused to the environment if interim relief is not granted in the present case. If the construction on the proposed project is allowed to go forward, it will have a detrimental impact on the coastal ecology of Querim beach in an area which falls within an NDZ, on the forested areas on Tiracol hill, for which there is no valid forest clearance, and on the Tiracol estuary which is highly dynamic due to river/sea interface. The ecological damage will be irreversible, and will result in a fait accompli.
7. It is pertinent to note that the Ld. NGT, Western Zone Bench had directed that status quo be maintained in December 2014, and continued the order of status quo in order dated 17.04.2015 in OA No. 33/2015(WZ). Therefore, the construction of the bridge has been stayed for over 5 years, and the construction has not recommenced till date. Therefore, the balance of convenience is in favour of the Appellant herein.
8. The Appellant has a strong prima facie case in its favour, as the Ld. Tribunal passed the impugned orders dated 22.01.2020 and 17.01.2022 in

violation of the principles of natural justice, and without considering the relevant material placed on record by the Appellant.

9. That the present Application is bona fide and in the interest of justice.

PRAYER

It is, therefore, humbly prayed that this Hon'ble Court may be pleased to grant the following interim relief:

a. Grant a stay on the impugned judgment and final order dated 22.01.2020 passed by the Hon'ble National Green Tribunal, Principal Bench, New Delhi, disposing of the O.A. 33/2015(WZ), pending hearing and final disposal of this Petition;

b. Grant a stay on the impugned judgment and final order dated 17.01.2022 passed by the Hon'ble National Green Tribunal, Special Bench passed in Misc. Application No. 21/2021(WZ) in O.A. 33/2015(WZ), pending hearing and final disposal of this Petition;

c. Direct that status quo be maintained on Sy Nos 110, 111 and 112 of Querim village and Sy Nos 14 and 15 of Tiracol village, pending hearing and final disposal of this Petition,

d. Pass such order/ further order(s) as this Hon'ble Court may deem fit and proper in the facts and circumstances of the case.

AND FOR WHICH ACT OF KINDNESS THE APPELLANT SHALL AS IN DUTY BOUND EVER PRAY.

Filed on: 30.05.2022

Place: New Delhi

FILED BY:

Srishti Agnihotri

SRISHTI AGNIHOTRI

ADVOCATE FOR THE APPELLANT

IN THE HON'BLE SUPREME COURT OF INDIA
CIVIL APPELLATE JURISDICTION
CIVIL APPEAL NO. ________ OF 2022

IN THE MATTER OF:

THE GOA FOUNDATION …APPELLANT

VERSUS

GOA STATE ENVIRONMENT IMPACT
ASSESSMENT AUTHORITY AND ORS. …RESPONDENTS

APPLICATION FOR EXEMPTION FROM FILING CERTIFIED COPY OF IMPUGNED ORDERS

TO,
THE HON'BLE CHIEF JUSTICE OF INDIA AND THE HON'BLE JUDGES OF THE SUPREME COURT OF INDIA

THE HUMBLE APPLICATION OF THE APPLICANT ABOVE NAMED

MOST RESPECTFULLY SHOWETH:

1. The present application has been filed in the above Civil Appeal filed under Section 22 of the National Green Tribunal Act, 2010 against the impugned order dated 22.01.2020 passed by the Ld. National Green Tribunal, Principal Bench, Delhi in O.A. No. 33/2015 [WZ] and the impugned order dated 17.01.2022 passed by the Ld. National Green Tribunal, Special Bench in Misc. Application No. 21/2021(WZ) in O.A. No. 33/2015(WZ).

2. That the facts of the case have been fully set out in the accompanying Civil Appeal. It is submitted that the facts stated in the Civil Appeal may be treated as part of this application and the same are not reproduced herein for the sake of brevity.
3. It is submitted that the Appellant herein was not able to obtain certified copies of the impugned orders due to paucity of time, therefore seek an exemption from filing certified copies of the impugned order dated 22.01.2020 passed by the Ld. National Green Tribunal, Principal Bench, Delhi in O.A. No. 33/2015 (WZ) and the impugned order dated 17.01.2022 passed by the Ld. National Green Tribunal, Special Bench in Misc. Application No. 21/2021(WZ) in O.A. No. 33/2015(WZ). The Appellants have filed web copies of the impugned orders obtained from the website of the National Green Tribunal.
4. The Appellants undertake to file certified copies of the impugned orders as and when the Hon'ble Court requires the same.

PRAYER

It is most respectfully prayed that this Hon'ble Court may be pleased to:

a) Exempt the Appellants from filing a certified copy of the impugned order dated 22.01.2020 passed by the Ld. National Green Tribunal, Principal Bench, Delhi in O.A. No. 33/2015 [WZ] and the impugned order dated 17.01.2022 passed by the Ld. National Green Tribunal, Special Bench in Misc. Application No. 21/2021(WZ) in O.A. No. 33/2015(WZ);

b) Pass any other order or orders as this Hon'ble Court may deem fit and proper in the facts and circumstances of the case.

AND FOR WHICH ACT OF KINDNESS THE PETITIONERS SHALL AS IN DUTY BOUND EVER PRAY.

Filed on: 30.05.2022

Place: New Delhi

FILED BY:

Srishti Agnihotri

SRISHTI AGNIHOTRI

ADVOCATE FOR THE APPELLANT

5.

BEFORE THE NATIONAL GREEN TRIBUNAL
AT PUNE

APPLICATION NO. 33 OF 2015

(under Section 14 and 15 of the
National Green Tribunal Act 2010)

BETWEEN:

THE GOA FOUNDATION
through its Secretary,
G-8, St Britto's Apts,
Feira Alta, Mapusa - Goa – 403505 ... ... **..APPLICANT**

And

1. **GOA STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY,**
through its Secretary,
c/o Goa Pollution Control Board,
Dempo Towers,
Patto, Panaji, Goa 403 001.

2. **GOA COASTAL ZONE MANAGEMENT AUTHORITY**
through its Member Secretary,
3rd Floor, Dempo Towers,
Patto, Panaji, Goa 403 001.

3. **GOA STATE INFRASTRUCTURE DEVELOPMENT CORPORATION**
through its Managing Director,
EDC Bldg., Panaji, Goa 403001

4. **STATE OF GOA,**
through its Chief Secretary,
c/o Secretariat,
Porvorim, Goa 403 521.

5. **PRINCIPAL CHIEF CONSERVATOR OF FORESTS,**
Dept. Of Forests, Swami Vivekananda Road,
Panaji, Goa 403 001.

6. **MINISTRY OF ENVIRONMENT, FORESTS & CC,**
through its Secretary, with address at:
Indira Paryavaran Bhavan, Jor Bagh Rd,
New Delhi 110 003. **......RESPONDENTS**

(Above are registered addresses of parties)

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL , WESTERN ZONE BENCH AT PUNE

Janardhan S. Parshekar
Mapusa Bardez - Goa
Regd. No. 218/10
Expiry Date
29/01/2025

MISC. APPLICATION NO 21 OF 2021
IN
ORIGINAL APPLICATION NO. 33/2015

BETWEEN:
The Goa Foundation
Through its Secretary
G-8, St Brittos Apt,
Feira Alta, Mapusa Goa 403507.
Email id: goafoundation@gmail.com.
Contact No. – 9674390308. ……**APPLICANT**

AND

1. **GOA STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY,**
   through its Secretary,
   c/o Goa Pollution Control Board,
   Near Pilerne Industrial Estate,
   Opposite Saligao Seminary,
   Saligao, Bardez, Goa – 403511,
   Email id- mail.gspcb@gov.in
   Contact No. - 0832-2407700.

2. **GOA COASTAL ZONE MANAGEMENT AUTHORITY**
   through its Member Secretary,
   4th Floor, Dempo Towers,
   Patto, Panaji, Goa - 403001,
   Email id: goacoastalzone@gmail.com,
   Contact No. - 0832-2407186.

3. **GOA STATE INFRASTRUCTURE DEVELOPMENT CORPORATION**
   through its Managing Director,
   7th Floor, EDC House,
   Dr. Atmaram Borkar Road,
   Panaji, Goa – 40300,
   Email id - email@gsidcltd.com

Contact no. - 0832-2493550.

4. **STATE OF GOA,**
through its Chief Secretary,
c/o Secretariat,
Porvorim, Goa - 403521,
Email id: cs-goa@nic.in,
Contact No. - 0832-2419402.

5. **PRINCIPAL CHIEF CONSERVATOR OF FORESTS,**
Forest Department, Government of Goa,
'Van Bhavan', Altinho, Panaji, Goa – 403001,
Email id – dcfhq-forest.goa@nic.in,
Contact no. – 0832 – 2492533.

6. **MINISTRY OF ENVIRONMENT, FORESTS & CLIMATE CHANGE,**
through its Secretary, with address at:
Indira Paryavaran Bhavan, Jor Bagh Rd,
New Delhi - 110003,
Email id – mefcc@gov.in,
Contact no. – 011 - 24645586.

......RESPONDENTS

(Above addresses are registered addresses of parties)

S. Parshekar
Bardez - Goa
Regd. No. 218/10
Expiry Date
29/01/2025

MATTER NOT LISTED WITHIN FIVE DAYS SECTION:

IN THE SUPREME COURT OF INDIA
CIVIL APPELLATE JURISDICTION
CIVIL APPEAL NO. _______ of 2022

IN THE MATTER OF:

THE GOA FOUNDATION …APPELLANT

VERSUS

GOA STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY AND ORS. …RESPONDENTS

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	Total		

FILING

Dated: 30.05.2022

MR. D.P. SINGH

I Card No. 6445

Mobile: 9650550192

Srishti Agnihotri

[SRISHTI AGNIHOTRI]
Advocate for Appellant
102, New Lawyers' Chamber, Setalvad Block,
Supreme Court of India, New Delhi 110 001
Code No. 2755
Mobile No. 9811629064

NOTARY
Janardhan S. Parshekar
Mapusa Bardez - Goa
Regd. No. 218/10
Expiry Date
29/01/2025
GOVT. OF GOA (INDIA)

IN THE SUPREME COURT OF INDIA
CIVIL APPELLATE JURISDICTION
CIVIL APPEAL NO. OF 2022

In the matter of:

THE GOA FOUNDATION	..APPELLANT
VERSUS	
GSEIAA	... RESPONDENTS

VAKALATNAMA

I, **Claude Alvares,** Appellant in the above Petition/ Appeal do hereby appoint and retain **MS. SRISHTI AGNIHOTRI,** Advocate of the Supreme Court of India to act and appear for me in the above Suit/ Appeal/ Petition/Reference and on my/ our behalf to conduct and prosecute (or defend) the same and all proceeding that may be taken in respect of any application connected with the same or any decree or order passed therein including proceedings in taxation and application for Review, to file and obtain return of documents, and to deposit and receive money on my/ our behalf in the said Suit/ Appeal/Petition/Reference and in applications of Review, and to represent me/ us and to take all necessary steps in my/ our behalf in the above matter. I/We agree to ratify all acts done by the aforesaid Advocate in pursuance of this authority.

Dated this the 27th day of May, 2022

Accepted, Identified & Certified

Srishti Agnihotri

PETITIONER(S)/RESPONDENT(S)/APPELLANT(S)

(SRISHTI AGNIHOTRI)
Advocate, Supreme Court of India

MEMO OF APPEARANCE

To,
The Registrar,
Supreme Court of India
New Delhi

Sir,

Please enter my appearance on behalf of the Appellant in the matter above mentioned.

At Mapusa on 27th day of May, 2022

Yours faithfully
Srishti Agnihotri
[SRISHTI AGNIHOTRI]
CC. No. 2755
CHAMBER NO.102
NEW BLOCK, SUPREME COURT OF INDIA

Srishti Agnihotri

I have satisfied myself as to the due execution of the vakalatnama

GOA
FOUNDATION

G-8, St Britto's Apartments, Feira Alta, Mapusa 403507 Goa, INDIA
Tel: +91-(0)832-2256479; 2263305 *(also fax)*
E-mail: goafoundation@gmail.com *Website:* www.goafoundation.org

Certified Copy of Resolution of the Goa Foundation

Certified that the resolution copied below was unanimously passed and adopted at the AGM of the Society held on 13.8.2021:

"This AGM hereby authorises either the President or the Secretary to approach appropriate fora including the NGT, High Court and Supreme Court in respect of the public interest matters approved for filing after discussion at the AGM held on 13th August 2021."

(Dr Claude Alvares)

Secretary

CERTIFICATE

****

In view of the Affidavit filed by the Secretary of the Society ' THE GOA FOUNDATION ' for the purpose of 3 (B) (4) of the Societies Registration (Goa Amendment) Act,1998, it is hereby certified that the registration of the said Society, registered under the Societies Registration Act, 1860 under No.23/Goa/86 is hereby renewed for a further period of five years w.e.f. 11-6-2000.

Dated:- 2nd August, 2000.

(P. V. S. Sardessai)
Inspector General
By -Order

Registration renewed till 11-06-2015
Dated 21/01/2011

21/1/2011

Inspector General of Societies/
/District Registrar (North Goa)
By Order

Registration renewed till 11-06-2020
Dated 24-09-2015

24/9/2015

[illegible] General of Societies/
[illegible] (North Goa)
By Order

Registration renewed till 11-06-2025
Dated 11-09-2020

11/09/2020

Inspector General of Societies/
/District Registrar (North Goa)
By Order